Reference Guide

Standard Automation Interface (SAI)

for Transmitters and Terminals

METTLER TOLEDO

Contents

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1 Introduction

This manual is one of several available that explains the Standard Automation Interface (SAI). Each manual covers SAI in a slightly different way explained in the chart below. The SAI manuals needed for use with your device can be found on the downloads page of your SAI device at www.mt.com

SAI Manual	File Name (xx = Revision)	Uses for Manual
Standard Automation Interface User's Guide	30588288_xx_MAN_UG_SAI_EN.pdf	Explains SAI in detail in a general sense. Does not include information specific to your SAI device.
Standard Automation Interface Reference Guide – Transmitters & Terminals [this manual]	30587511_xx_MAN_REF_SAI-Transmitters_EN.pdf	Explains the status information and commands supported by specific terminals and transmitters. Can be used as a reference by a programmer.

2 Status Bits

2.1. Device Status Bits

The device status is a composite status word that contains individual bits to indicate the state of various scale or device-specific binary values. The device status bits are always a part of the Measuring Block so no matter the SAI block format in use (1 block, 2 block or 8 block), this information is always available. The 16 bits include the following information:

Bit	Device-specific Value	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	Sequence bit 0	Used as sequence toggle bits. When commands are sent by the control system, the device changes the value of the sequence bits as an indication that the command has been seen and acted on. Sequence bits are used during a sequence of commands to ensure that there have been no sequencing errors in the request and the response of data. They are updated on every new command.	x	x	x	x	x	x	x	x
1	Sequence bit 1									
2	Heartbeat	Toggles between 0 and 1 (1 sec.) to ensure that the device is operational and updating data in Words 0, 1 and 2.	x	x	x	x	x	x	x	x
3	Data OK	This bit is set to 0 when the device is still operational, but the value being reported cannot be guaranteed to be valid. There are two possible structures for Data OK, Simplified (Standard) Data OK or Legacy (LFT) Data OK. For details on what causes Data OK to go to 0, please refer to Sections 3.1.1 and 3.1.2	x	x	x	x	x	x	x	x
4	RedAlert Alarm condition (Smart5 Red Level 5)	The alarm condition indicates a system error. More information about the specific alarm can be found in the section 2.2 **RedAlert Alarms (Smart5 Red Level 5)**.	x	x	x	x	x	x	x	x

Bit	Device-specific Value	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
		1 = Application fault; predictive diagnostics alarm triggered or command cannot be executed as requested.								
5	Center of zero	1 = Gross weight value is at a value of zero +/- one quarter of a weight and measures verification interval denoted as "e".	x	x	x		x	x	x	x
6	Motion	1 = Weight is unstable.	x	x	x	x	x	x	x	x
7	Net Mode	1 = Net weight instead of gross weight is reported.	x	x	x	x	x	x	x	x
8	Alternate weight unit	1 = An alternate weight unit, other than the primary unit is in use.								x
9	Device-specific bit 1	Refer to section 2.1.3, **Device-Specific Bits,** to see how different devices utilize these bits.			x					
10	Device-specific bit 2									
11	Device-specific bit 3									
12	Device-specific bit 4									
13	Device-specific bit 5									
14	Device-specific bit 6									
15	Device-specific bit 7									

2.1.1. Simplified Data OK

This bit is set to 1 when the device is operational and must be evaluated in conjunction with bit 4 (Smart5 Red). METTLER TOLEDO sample programs evaluate both bits simultaneously to indicate that the weight is valid.

The following conditions cause the Data Ok bit to indicate a value of 0.

- Device is powering up
  - Device is booting
  - Device is in process of conducting power up zero operation
  - All operations the device needs to complete before a valid weight value are being transmitted

- The device indicates an in-progress calibration and adjustment cycle
- While in setup mode no weight transmission is possible
    - In ASM (Automatic Setup Mode on Precision Scales): while in the ASM menu, no other scale information can be transmitted.
- Device is powering down
    - Occurs as soon as the device receives shut down or restart signal
    - Internal software modules are shut down and correct weight can no longer be guaranteed

Note: This is taken into account only if the device can detect power-down.

- Device is in Test Mode

2.1.2. Legacy Data OK

In the past, Data OK also indicated weights and measures relevant events such as Over Capacity, Under Capacity and x10 based on OIML R76 and NTEP Handbook 44. These functions have been moved into Smart5™ to improve the stability of the system when used in automation because the weights and measures tolerances are too small for many applications because they were established for non-automatic weighing used in commercial Business to Customer transactions.

In automation indicators (terminals) the over and under capacity limits must be defined in the configuration of the unit to match the safety requirements for the device, the structure (or machine), the operators and the environment. The system safety requirements must be evaluated on a case-by-case basis by qualified personnel to ensure the structure supporting / holding the scale must be structurally robust (strong) enough to carry the weight of the scale and any objects placed on/in it including a safety factor that accounts for any and all worst-case overload scenarios.

When designing control algorithms, it is necessary to evaluate the vessel and scale capacities independently as a best safety practice. In most cases, the scale capacity exceeds the vessel's capacity in weight. This means that scale capacity must never be used as a method to prevent overfilling of the vessel, or any other object, because the vessel will reach its maximum capacity limits before the scale capacity limit. Instead, use an internal comparator that disables the filling mechanism / system at, or before, the vessel's maximum capacity limit in weight/volume, and add a compare function in the control system logic that prevents overfilling of the object on the scale. These precautions must be taken to avoid injury to personnel and equipment damage.

Note: in safety-relevant systems both Data Ok and Smart5 red must be constantly evaluated by the control system to verify that the device is delivering valid measurements. To ensure safe operation DO NOT REMOVE THESE TWO FUNCTIONS from the sample code, or your programming code

2.1.3. Device-Specific Bits

Device-specific Bit	ACT350POWERCELL		IND500x
1	Runflat	0 = not triggered, 1 = triggered	
2	—		

Device-specific Bit	ACT350POWERCELL	IND500x
3	—	
4	—	
5	—	
6	—	
7	—	

2.2. RedAlert Alarms (Smart5 Red Level 5)

RedAlert Alarms are sent by default as Status Group1 when using the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. See section 3 of this document for all status commands that return the RedAlert Alarms.

Bit	Red Alert	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	Calibration error	1 = Weight data can no longer be trusted due to loss of calibration data or an algorithm running in the product to detect weighing irregularities.					x	x	x	
1	Out of A/D range over/under	1 = Weight data can no longer be trusted due to loss of data or mechanical damage of the weigh module.	x	x			x			x
2	Checksum failure	1 = A checksum analysis of memory does not yield the expected result.	x	x	x	x	x	x	x	
3	Weight blocked	1 = Weight data does not change appreciably over a defined period of time.	x	x	x		x	x	x	
4	Single sensor communication failure (LC missing)	1 = One or more of the connected sensors are not working properly.			x	x	x	x	x	
5	Customer defined overload	1 = Weight is equal to or greater than the maximum load allowed. Although overload is a conditional limit, it can lead to bigger errors such as mechanical breakage or personal injury.	x	x	x		x	x		
6	Customer defined underload	1 = Weight is equal or less than the minimum load allowed.	x	x	x		x	x		
7	Network failure (all cells)	Applicable only on multi-cell networks. 1 = Failure of the entire network. No cells are responding.						x		

Bit	Red Alert	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
8	Zero out of range	1 = A control system attempted a zero command but the device did not accept the command because the weight is outside the specified limits or the weights and measure limits.	x	x	x	x	x	x		x
9	Symmetry errors	Applicable only for products with TraxDSP function which detects significant errors between load cells and their peers. 1 = A symmetry error has been detected.								
10	Temperature errors (LC temperature out of normal temperature)	1 = Sensor is outside of the allowed temperature range. The weight value can be affected, or the components can prematurely fail.								
11	Weights and measures failure	1 = The product is no longer in compliance with weights and measure regulations.	x	x	x					
12	Foreign device detected	1 = A foreign device is attached to the system or any similar algorithm limits.								
13	Test mode	1 = Device is in a mode in which live data is being replaced with special test data.	x	x	x		x	x	x	x
14	Analog LC Error	1 = Analog Sensor Error detected by measuring system total resistance			x		x			
15	Unused									

2.3. Secondary Scale Status

These status bits are sent by default as Status Group 2 when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. See section 3 of this document for all status commands that return the Secondary Scale Status. The 16 bits include the following information:

Bit	Scale Status Group	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	Unit Bit 1	Unit bits are used to indicate the weight unit. Refer to "Unit Bits" table below for more information.	x	x	x	x	x	x	x	x
1	Unit Bit 2									
2	Unit Bit 3									
3	Unit Bit 4									
4	MinWeigh Error	1 = Scale is below acceptable minimum weighing range.								
5	Range bit 1	Range bits are used to indicate weight range or interval based on the values shown. Refer to the **Range Bits** table, below, for more information.								x
6	Range bit 2									
7	In Set Up	1 = Sensor is in setup mode.	x	x	x	x	x	x	x	x
8	Power Up Zero Failure	1 = Scale has not been able to complete its power-up restore / reset of zero.	x	x	x		x	x	x	x
9	GWP out of Tolerance	1 = Scale has a GWP out of tolerance error.								
10	Smart5 Level 4	Imminent failure according to Smart5 definition Note: Smart5 is not supported for ACT350 devices. Note: This bit corresponds to "Selected Scale" for IND500x instead of Smart5 Level 4					x	x	x	x
11	Smart5 Level 3	Out of specification according to Smart5 definition Note: Smart5 is not supported for ACT350 devices.					x	x	x	
12	Smart5 Level 2	Predictive Alarm according to Smart5 definition Note: Smart5 is not supported for ACT350 devices.					x	x	x	
13	LFT Switch On	1 = weights and measures switch is enabled for transactional weighing					x	x	x	

Bit	Scale Status Group	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
14	Open	Unused								
15	Open	Unused								

2.3.1. Unit Bits

Unit Bit 3	Unit Bit 2	Unit Bit 1	Unit Bit 0	Value
0	0	0	0	g
0	0	0	1	kg
0	0	1	0	lb
0	0	1	1	t
0	1	0	0	ton
0	1	0	1	Mg
0	1	1	0	µg
0	1	1	1	Special/custom
1	0	0	0	oz
1	0	0	1	dwt
1	0	1	0	ozt
1000 - 1111				Reserved

2.3.2. Range Bits

Range bit 1	Range bit 2	Value
0	0	Range/Interval 1
0	1	Range/Interval 2
1	0	Range/Interval 3
1	1	Reserved

2.4. Alarm Status 2nd Group

These status bits are available when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. Please note that this group is not sent by default. A status command that returns this group must be sent. See section 3 of this document for all status commands that return the Alarm Status 2nd Group. The 16 bits include the following information:

Bit	Soft Alarm	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	Rate of change	Product, application or customer defines a weight / time scenario as a method of assurance that the scale is detecting weight								
1	Communication errors	1 = The communication of a device which is connected to a sensor is not working according to specification.								x
2	Over and under voltage (s)	1 = A device which supports dynamic measurements of system power has over or under voltage.						x		
3	Weight drift	1 = A strain gauge sensor has either a broken bridge or is damaged by water or lightning.								
4	Breach	1 = The enclosure of the sensor has been compromised and is therefore vulnerable to environmental influences, e.g. moisture or water. In most cases, a failure will occur if the breach is not corrected or if the sensor is not replaced.						x		
5	Calibration expired	1 = The maximum number of transactions or a time limit before a preventive service or recalibration has been reached. The alarm will toggle on N+1 weighing transactions.								
6	Application-defined 0	Refer to section 2.4.1, **Application-Specific Soft Alarms**, for more information			x			x		
7	Application-defined 1				x					
8	Application-defined 2				x					
9	Application-defined 3				x					
10	Application-defined 4				x					
11	Application-defined 5									

Bit	Soft Alarm	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
12	Application-defined 6									
13	Application-defined 7									
14	Application-defined 8									
15	Application-defined 9									

2.4.1. Application-Specific Soft Alarms

	ACT350 POWERCELL	IND360 POWERCELL
Application-defined 0	Over current – network current > 1A	1 = in RunFlat mode
Application-defined 1	LC overload weight between 101% and 150%	
Application-defined 2	LC overload weight >150%	
Application-defined 3	Load cells are not the same type	
Application-defined 4	LC temperature out of operation range	
Application-defined 5	None	
Application-defined 6	None	
Application-defined 7	None	
Application-defined 8	None	
Application-defined 9	None	

2.5. Target Status Group

These status bits are target application bits sent when a status block command that contains this status word in its combination is sent in the Write Status command word. Please note that no devices covered by this manual currently support the target status group.

2.6. Load Cell Groups

The load cell group status bits are used to display critical errors for individual attached devices such as POWERCELL load cells. Load cell group 2 is an extension of load cell group 1. These status bits are available when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. Please note that this group is not sent by default. A status command that returns this group must be sent. See section 3 of this document for all status commands that return the Load Cell Groups. The 16 bits include the following information:

2.6.1. Load Cell Group 1

Bit	Data	ACT	ACT	ACT	ACT	IND	IND	IND	IND
0	Error on attached device 1			x			x		
1	Error on attached device 2			x			x		
2	Error on attached device 3			x			x		
3	Error on attached device 4			x			x		
4	Error on attached device 5			x			x		
5	Error on attached device 6			x			x		
6	Error on attached device 7			x			x		
7	Error on attached device 8			x			x		
8	Error on attached device 9			x			x		
9	Error on attached device 10			x			x		
10	Error on attached device 11			x			x		
11	Error on attached device 12			x			x		
12	Error on attached device 13			x			x		
13	Error on attached device 14			x			x		
14	Error on attached device 15						x		
15	Error on attached device 16						x		

2.6.2. Load Cell Group 2

No devices covered in this manual currently support this group.

2.7. Last Error Message Status Group

No devices covered in this manual currently support this group.

2.8. Custom Application Status Groups

These bits give information relating to the run status or an alarm status of an application within the device. For more information on how to use the custom application for the ACT350 DIO, please refer to the user manual for that product. For more information on how to use the custom applications for IND360, please see the specific application manual for IND360.

2.8.1. Custom Application Status Group 1

These bits give information relating to the run status of an application within the device. For more information on how to use the custom application for the ACT350 DIO, please refer to the user manual for that product. For more information on how to use the custom applications for IND360, please see the specific application manual for IND360. These status bits are available when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block

format. Please note that this group is not sent by default. A status command that returns this group must be sent. See section 3 of this document for all status commands that return the Custom Application Status Group 1. The 16 bits include the following information:

Bit	Custom application status bits, group 1	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Tank Vessel	IND360 Rate Control	IND360 Dynamic	IND360 Fill Dose
0	Application-defined 0	—	New Data Available 1 = triggered weight is available	—	—	Run	Run	Run	Run
1	Application-defined 1	—	OK (ready for next object) Finished last weighing process, can start next process	—	—	Refill	Refill	Front PE	Complete
2	Application-defined 2	—	Up Scale Weighing object is coming onto the scale	—	—	Upper Limit	Alarm	On Scale Entirely	Pause
3	Application-defined 3	—	On scale Weighing object is on the scale	—	—	Lower Limit	—	Rear PE	Dump
4	Application-defined 4	—	Weighing start Start the weighing or calibration process	—	—	Alarm	—	Complete	Refill
5	Application-defined 5	—	Weighing over End the weighing or calibration process	—	—	—	—	Ready	App Alarm
6	Application-defined 6	—	OK (no error) No error in weighing process	—	—	—	—	Zero State	Feed
7	Application-defined 7	—	Long object Object is too long and cannot be weighed	—	—	—	—	Empty State	Fast Feed
8	Application-defined 8	—	Short Distance Distance between objects is too small and cannot be weighed	—	—	—	—	Alarm	—
9	Application-defined 9	—	Photo Occlusion Front Front light barrier is blocked. The process should be stopped and the light barrier should be cleared	—	—	—	—	—	Spill
10	Application-defined 10	—	Flag of update zero 1 = PLC can send zero command to clear the zero	—	—	—	—	—	Refill Upper Limit
11	Application-defined 11	—	—	—	—	—	—	—	Refill Lower Limit
12	Application-defined 12	—	—	—	—	—	—	—	Over +Tol
13	Application-defined 13	—	—	—	—	—	—	—	Under –Tol
14	Application-defined 14	—	—	—	—	—	—	—	Jog
15	Application-defined 15	—	—	—	—	—	—	—	—

2.8.1.1. For IND500x

Bit	Custom Application Group 1 - Run Status	Advance Auto Filling - Fill Work Mode	Advance Auto Filling - Fill/Dump Work Mode	Advance Auto Filling - Dose Work Mode	Advance Auto Filling - Dose/Refill Work Mode	Drum Filling - Manual Work Mode	Drum Filling - Top Fill Work Mode
0	Custom Bit 1	Running	Running	Running	Running	Running	Running
1	Custom Bit 2	Complete: Fill	Complete: Fill		Complete: Refill	Complete: Fill	Complete: Fill
2	Custom Bit 3	Holding	Holding	Holding	Holding	Holding	Holding
3	Custom Bit 4		Dump		Refill		Lower Lance
	Custom Bit 5		Complete: Dump	Complete: Dose	Complete: Dose		Raise Lance
5	Custom Bit 6	Alarm (application)	Alarm (application)	Alarm (application)	Alarm (application)	Alarm (application)	Alarm (application)
6	Custom Bit 7	Feed / Jog	Feed / Jog	Feed / Jog	Feed / Jog	Feed / Jog	Feed / Jog
7	Custom Bit 8	Fast Feed	Fast Feed	Fast Feed	Fast Feed	Fast Feed	Fast Feed
8	Custom Bit 9	Coarse Feed (Reserved)	Coarse Feed (Reserved)	Coarse Feed (Reserved)	Coarse Feed (Reserved)	Coarse Feed (Reserved)	Coarse Feed (Reserved)
9	Custom Bit 10	Start Delay	Start Delay	Start Delay	Start Delay	Start Delay	Start Delay
10	Custom Bit 11	After Weigh Delay	After Weigh Delay	After Weigh Delay	After Weigh Delay	After Weigh Delay	After Weigh Delay
11	Custom Bit 12						Extend Drip Pan
12	Custom Bit 13	Over + TOL (Over Zone)	Over + TOL (Over Zone)	Over + TOL (Over Zone)	Over + TOL (Over Zone)	Over + TOL (Over Zone)	Over + TOL (Over Zone)
13	Custom Bit 14	Under - TOL (Under Zone)	Under - TOL (Under Zone)	Under - TOL (Under Zone)	Under - TOL (Under Zone)	Under - TOL (Under Zone)	Under - TOL (Under Zone)
14	Custom Bit 15	TOL OK	TOL OK	TOL OK	TOL OK	TOL OK	TOL OK
15	Custom Bit 16	Ready	Ready	Ready	Ready	Ready	Ready

2.8.2. Custom Application Status Group 2

These bits give information relating to the alarm status of an application within the device. For more information on how to use the custom applications for IND360, please see the specific application manual for IND360. These status bits are available when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. Please note that this group is not sent by default. A status command that returns this group must be sent. Refer to section 3 of this document for all status commands that return the Custom Application Status Group 2. The 16 bits include the following information:

Bit	Custom application status bits, group 2	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Tank Vessel	IND360 Rate Control	IND360 Dynamic	IND360 Fill Dose
0	Application-defined 0	None	None	None	None	Lower Limit Alarm	Flow Calibration Failed	Front PE Timeout	Starting Weight Invalid
1	Application-defined 1	None	None	None	None	Upper Limit Alarm	Control Rate Below Lower Limit	Rear PE Timeout	Autotare Fault
2	Application-defined 2	—	—	—	—	Parameter Invalid	Control Rate Over Upper Limit	PE Logic Error	Process Timeout
3	Application-defined 3	—	—	—	—	Parameter Logic Error	Refill Out	Weighing Time	Initial Feed Timeout
4	Application-defined 4	—	—	—	—	—	Out of Flow Tolerance	Weighing Timeout	Refill Timeout
5	Application-defined 5	—	—	—	—	—	Control Abnormal	Objects Exceeded	Dump Timeout
6	Application-defined 6	—	—	—	—	—	Flow Abnormal	Over Weight	Parameter Invalid
7	Application-defined 7	—	—	—	—	—	Parameter Invalid	Under Weight	Parameter Logic Error
8	Application-defined 8	—	—	—	—	—	Parameter Logic Error	Timed Zero	Not Enough Material
9	Application-defined 9	—	—	—	—	—	—	Parameters Invalid	Max Jog Cycles Reached
10	Application-defined 10	—	—	—	—	—	—	Parameter Logic Error	—
11	Application-defined 11	—	—	—	—	—	—	—	—
12	Application-defined 12	—	—	—	—	—	—	—	—
13	Application-defined 13	—	—	—	—	—	—	—	—

Bit	Custom application status bits, group 2	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Tank Vessel	IND360 Rate Control	IND360 Dynamic	IND360 Fill Dose
14	Application-defined 14	—	—	—	—	—	—	—	—
15	Application-defined 15	—	—	—	—	—	—	—	—

2.8.2.1. For IND500x

Bit	Custom Group 2- Alarm Status	Advance Auto Filling	Drum Filling
0	Custom Bit 1	Starting weight invalid	Starting weight invalid
1	Custom Bit 2	Autotare Fault	Autotare Fault
2	Custom Bit 3	Process Timeout	Process Timeout
3	Custom Bit 4	Initial Feed Timeout	Initial Feed Timeout
4	Custom Bit 5	Refill Timeout	Reserved
5	Custom Bit 6	Dump Timeout	Reserved
6	Custom Bit 7	Parameter Invalid	Parameter Invalid
7	Custom Bit 8	Parameter Logic Error	Parameter Logic Error
8	Custom Bit 9	Material not enough	Reserved
9	Custom Bit 10		
10	Custom Bit 11		
11	Custom Bit 12		
12	Custom Bit 13		
13	Custom Bit 14		
14	Custom Bit 15		
15	Custom Bit 16		

2.9. I/O Status Groups

On devices which support physical I/O, the status groups contain a combination of input and output status bits for I/O.

Devices which do not support physical I/O may have variables and logic to virtually represent inputs and outputs within the device. If the device does not support I/O groups, an invalid command response is sent for any unsupported I/O groups. These status bits are available when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. Please note that this group is sent by default as status group 3 if no other status commands have been executed. See section 3 of this document for all status commands that return the I/O Status Groups. The 16 bits include the following information:

The input and output status bits reflect the state of the associated inputs and outputs, 1 = on, 0 = off.

Bit	Data	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	In 1		x	x	x	x	x	x	x
1	In 2		x	x	x	x	x	x	x
2	In 3		x	x	x	x	x	x	x
3	In 4					x	x	x	
4	In 5					x	x	x	
5	In 6								
6	In 7								
7	In 8								
8	Out 1		x	x	x	x	x	x	x
9	Out 2		x	x	x	x	x	x	x
10	Out 3		x	x	x	x	x	x	x
11	Out 4		x	x	x	x	x	x	
12	Out 5		x	x	x	x	x	x	
13	Out 6					x	x	x	
14	Out 7					x	x	x	
15	Out 8					x	x	x	

2.10. Comparator Status Groups

The Comparator status group bits indicate whether the corresponding comparator for the device is high or low. These status bits are available when using either the SAI 2 block or 8 block formats. This information is not available if using the SAI 1 block format. Please note that this group is not sent by default. A status command that returns this group must be sent. See section 3 of this document for all status commands that return the Comparator Status Groups. The 16 bits include the following information:

2.10.1. Comparator Status Group 1

Bit	Data	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	Comparator 1		x	x	x	x	x	x	x
1	Comparator 2		x	x	x	x	x	x	x
2	Comparator 3		x	x	x	x	x	x	x
3	Comparator 4		x	x	x	x	x	x	x
4	Comparator 5		x	x	x	x	x	x	x
5	Comparator 6					x	x	x	

Bit	Data	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
6	Comparator 7					x	x	x	
7	Comparator 8					x	x	x	
8	Comparator 9								
9	Comparator 10								
10	Comparator 11								
11	Comparator 12								
12	Comparator 13								
13	Comparator 14								
14	Comparator 15								
15	Comparator 16								

2.10.2. Comparator Status Group 2

None of the devices covered in this manual currently support this group.

3 SAI Status Block Command List

By default, Status Block Command = 0 when using SAI 2 block and 8 block formats. Status block commands are not available when SAI 1 block format is used. If Status Block information other than the default information is required, simply issue the command from the table below that returns the necessary data. The most recently executed Status Block Command executed can be confirmed by checking the Status Block Response Value. The response value will either match the most recently executed command or will indicate an error executing the command if bit 15 of the response is high.

Value	Description		ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	Word 0	RedAlert Alarms	x	x	x	x	x	x	x	x
	Word 1	Secondary Scale Status								
	Word 2	I/O Group 1								
1	Word 0	RedAlert Alarms	x	x	x	x	x	x	x	x
	Word 1	Secondary Scale Status								
	Word 2	I/O Group 1								
2	Word 0	Target Group	x	x	x	x	x	x	x	x
	Word 1	Comparator Group 1								
	Word 2	Comparator Group 2								
4	Word 0	Target Group			x					x
	Word 1	I/O Group 2								
	Word 2	Load Cell Group 1								

Value	Description		ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
12	Word 0	Customer App Status 1								
	Word 1	Customer App Status 2					x	x	x	x
	Word 2	I/O Group 1								
13	Word 0	Custom Group 1								
	Word 1	Custom Group 2								x
	Word 2	I/O Group 2								
14	Word 0	Custom Group 1								
	Word 1	I/O Group 1								x
	Word 2	I/O Group 2								
16	Word 0	Comparator Group 1								
	Word 1	Comparator Group 2	x	x	x	x	x	x	x	x
	Word 2	I/O Group 1								
17	Word 0	Comparator Group 1								
	Word 1	NULL								x
	Word 2	I/O Group 2								
18	Word 0	Comparator Group 1								
	Word 1	I/O Group 1								x
	Word 2	I/O Group 2								
21	Word 0	RedAlert Alarms								
	Word 1	Alarm Status 2nd Group	x	x	x	x	x	x	x	x
	Word 2	Secondary Scale Status								
22	Word 0	RedAlert								
	Word 1	Comparator 1								x
	Word 2	NULL								

Value	Description		ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
23	Word 0	Alarm Status 2nd Group		x						x
	Word 1	I/O Group 1								
	Word 2	Customer App Status 1								
24	Word 0	Load Cell Group 1						x		
	Word 1	Load Cell Group 2								
	Word 2	Customer App Status 1								
100	Report last error code		x	x	x	x	x	x	x	x

4 Cyclic Command List for Measuring Block

The chart below shows which floating-point cyclic commands are supported by specific devices. In the case of IND360, some cyclic commands are available for specific applications, but not the base unit. These commands have been separated into the tables found in Sections 4.1 to 4.4.

To issue a cyclic read command, set the Measuring block command equal to the command found in the read column of the table below. Verify the command was executed successfully by monitoring the response value of the Measuring block. If the command was executed successfully, the response value = the command. The result of the read command will be available in the Measuring block measuring value. If not executed successfully, bit 15 of the response value will be high. A cyclic read command will continue to update the value being read until a different Measuring block command is sent.

To issue a cyclic write command, enter the value to be written in the Measuring block command value and then set the Measuring block command equal to the command found in the write column of the table below. Verify the command was executed successfully by monitoring the response value of the Measuring block. If the command was executed successfully, the response value = the command value. If not executed successfully, bit 15 of the response value will be high. A cyclic write command will execute one time.

Please note that a cyclic command cannot be executed twice in a row. If required, send a "no-op" (command = 2000) command between the first and second instances of the command.

Read	Write	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
0	N/A	Gross weight – rounded	x	x	x	x	x	x	x	x
1	N/A	Gross weight – rounded	x	x	x	x	x	x	x	x
2	N/A	Tare weight – rounded	x	x	x	x	x	x	x	x
3	N/A	Net weight – rounded	x	x	x	x	x	x	x	x
5	N/A	Gross weight - internal resolution	x	x	x	x	x	x	x	x
6	N/A	Tare weight - internal resolution	x	x	x	x	x	x	x	x

Read	Write	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
7	N/A	Net weight - internal resolution	x	x	x	x	x	x	x	x
9	N/A	Weight unit (number representing unit from chart)					x	x	x	
14	N/A	Net weight - alternative weight path								
16	N/A	Gross weight of each POWERECELL in displayed resolution						x		
17	N/A	Net weight of each POWERCELL in displayed resolution						x		
40	240	Report/Write comparator 1 limit	x	x	x	x	x	x	x	x
41	241	Report / Write Comparator 1 High Limit					x	x	x	x
42	242	Report/Write comparator 2 limit	x	x	x	x	x	x	x	x
43	243	Report / Write Comparator 2 High Limit					x	x	x	x
44	244	Report/Write comparator 3 limit	x	x	x	x	x	x	x	x
45	245	Report / Write Comparator 3 High Limit					x	x	x	x
46	246	Report/Write comparator 4 limit	x	x	x	x	x	x	x	x
47	247	Report / Write Comparator 4 High Limit					x	x	x	x
48	248	Report/Write comparator 5 limit	x	x	x	x	x	x	x	x
49	249	Report / Write Comparator 5 High Limit					x	x	x	x
50	250	Report/Write comparator 6 limit					x	x	x	
51	251	Report / Write Comparator 6 High Limit					x	x	x	
52	252	Report/Write comparator 7 limit					x	x	x	
53	253	Report / Write Comparator 7 High Limit					x	x	x	
54	254	Report/Write comparator 8 limit					x	x	x	
55	255	Report / Write Comparator 8 High Limit					x	x	x	
83	N/A	Report general stability timeout [s] **Parameter**: 0 - 65535 seconds								
84	284	Report/Write observation time for zero **Parameter**: 0.1 - 4.0 Seconds				x			x	
85	285	Report/Write tolerance for zero **Parameter**: 0.25 - 1000 digits				x			x	

Read	Write	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
86	286	Report/Write observation time for tare **Parameter**: 0.1 – 4.0 Seconds				x			x	
87	287	Report/Write tolerance for tare **Parameter**: 0.25 – 1000 digits				x			x	
88	288	Report/Write observation time for weighing **Parameter**: 0.1 – 4.0 Seconds				x			x	
89	289	Report/Write tolerance for weighing **Parameter**: 0.25 – 1000 digits				x			x	
90	290	Report weighing mode **Parameter**: 0 = Universal Weighing 2 = Fix Filter				x			x	
91	291	Report weighing environment **Parameter**: 0 = Very Stable 1 = Stable 2 = Standard 3 = Unstable4 = Very Unstable				x			x	
92	292	Report filter cut-off frequency **Parameter**: 0 = Predefined frequency used, changeable over weighing environment 0.001 Hz – 20.0 Hz = Cutoff Frequency				x			x	x
93	293	Report/Write Notch Filter								x
95	295	Report/Write Zero adjustment count					x	x		
96	296	Report/Write weight readability **Parameter**: 0 = 1 digit 1 = 10 digits 2 = 100 digits 3 = 1000 digits 4 = 2 digits 5 = 5 digits							x	
97	N/A	Internal temperature in °C								
98	N/A	Report filter cut-off frequency for dosing path								
N/A	201	Write Preset tare (display unit) **Parameter**: Pre-tare weight (float 32) placed in Measuring value	x	x	x	x	x	x	x	x
283	N/A	Write general stability timeout [s] **Parameter**: 0 – 65535 seconds								
298	N/A	Write filter cut-off frequency for dosing path								
N/A	400	Tare when stable	x	x	x	x	x	x	x	x
N/A	401	Zero when stable	x	x	x	x	x	x	x	x
N/A	402	Clear tare	x	x	x	x	x	x	x	x

Read	Write	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
N/A	403	Tare immediately	x	x	x	x	x	x	x	
N/A	404	Zero immediately	x	x	x	x	x	x	x	
N/A	410	Trigger ePrint (Trigger Alibi Memory)					x	x	x	x
N/A	411	Trigger 1 Command								x
N/A	412	Trigger 2 Command								x
N/A	413	Trigger 3 Command								x
N/A	430	Clear Alarm								x
N/A	505	Use Gross Weight for Target								x
N/A	506	Use Net Weight for Target								x
N/A	510	Apply Comparators	x	x	x	x	x	x	x	x
N/A	1000	Force all outputs OFF	x	x	x	x	x	x	x	x
N/A	600	Clear Display Message								x
N/A	601	Display Message 1								x
N/A	602	Display Message 2								x
N/A	603	Display Message 3								x
N/A	604	Display Message 4								x
N/A	605	Display Message 5								x
N/A	606	Display Message 6								x
N/A	607	Display Message 7								x
N/A	630	Disable Weight Display								x
N/A	631	Enable Weight Display								x
N/A	632	Disable Keypad								x
N/A	633	Enable Keypad								x
N/A	634	Reset Enter Key Bit								x
1506	N/A	Validate (confirm) adjustment					x	x		
1706	N/A	Span adjustment value 1 – xLow, used in 5 point linearity adjustment					x	x		

Read	Write	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
1707	N/A	Span adjustment value 2 – Low, used in 5 and 4 point linearity adjustment					x	x		
1708	N/A	Span adjustment value 3 – Middle, used in 5, 4 and 3 point linearity adjustment					x	x		
1709	N/A	Span adjustment value 4 – High, used in all forms of span adjustment					x	x		
N/A	1900	Alarm bit – write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1901	Motion bit – write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1902	Net mode bit – write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1903	Center of zero bit – write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1904	Alt weight bit – write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1905	Device bit 1 – write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1906	Device bit 2– write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1907	Device bit 3– write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1908	Device bit 4– write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1909	Device bit 5– write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1910	Device bit 6– write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1911	Device bit 7– write value of bit when in test mode	x	x	x	x	x	x	x	x
N/A	1912	Performance Mode **Parameter**: 0 – send performance count at A/D rate 1 – send performance count at 1 mese interval n – send performance count at n ms interval	x	x	x	x	x	x	x	
N/A	2000	No operation command – used to test command	x	x	x	x	x	x	x	
2002	N/A	Continue to next step in sequence					x	x	x	
2003	N/A	Continue to next step in sequence					x	x	x	
2004	N/A	Abort sequence … response value means abort in process	x	x	x	x	x	x	x	
2005	N/A	After step failure, retries previous step in sequence					x	x	x	

Read	Write	Description	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
2006	N/A	After step failure, skips step and advances to next in sequence					x	x	x	
2045	N/A	Step successful, next value	x	x	x	x	x	x	x	
2046	N/A	Step successful	x	x	x	x	x	x	x	
2047	N/A	Command has been received and is being evaluated (in process)	x	x	x	x	x	x	x	
N/A	8080h	Start cyclic test mode	x	x	x	x	x	x	x	x
N/A	8888h	Stop cyclic test mode	x	x	x	x	x	x	x	x

4.1. Cyclic Commands – IND360 Dynamic Application

The cyclic commands listed below are for use with the IND360 Dynamic application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Dynamic application. Please see the section specific to the application installed on your device if using something other than the IND360 Dynamic application. More details about the IND360 Dynamic Application can be found in the IND360 Dynamic Application Manual.

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
101	301	Photoeye Mode – **Parameter**:0 = Dual photoeye 1 = Single Photoeye	x		
102	302	Installation Position – **Parameter**: 0 = Front1 = Rear	x		
103	303	Multiple Objects – **Parameter**: 0 = False1 = True	x		
104	304	Burr Time – **Parameter**: 1-1000 ms	x		
105	305	Interval Time – **Parameter**: 1-1000 ms	x		
106	306	Object Length – **Parameter**: < Belt Length	x		
107	307	Belt Speed – **Parameter**: 1-10000 rpm	x		

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
108	308	Belt Length – **Parameter**: 1-5000 cm	x		
109	309	Photoeye Polarity – **Parameter**:0 = High Level 1 = Low Level	x		
110	310	Min. Weighing Time – **Parameter**: 1-5000 ms	x		
111	311	Max. Weighing Time – **Parameter**: Min. Weighing Time – 10000 ms	x		
112	312	Filter Mode – **Parameter**:0 = Automatic1 = Manual	x		
113	313	Filter – **Parameter** – **Parameter**: 1-1000 ms	x		
114	314	Compensation Management – **Parameter**: 0 = Disable1 = Enable	x		
115	315	Weight 1 – Dynamic Application	x		
116	316	Weight 2 – Dynamic Application	x		
117	317	Weight 3 – Dynamic Application	x		
118	318	Weight 4 – Dynamic Application	x		
119	319	Weight 5 – Dynamic Application	x		
120	320	Factor 1 – Dynamic Application – **Parameter**: 0.1-9	x		
121	321	Factor 2 – Dynamic Application – **Parameter**: 0.1-9	x		
122	322	Factor 3 – Dynamic Application – **Parameter**: 0.1-9	x		
123	323	Factor 4 – Dynamic Application – **Parameter**: 0.1-9	x		
124	324	Factor 5 – Dynamic Application – **Parameter**: 0.1-9	x		
125	325	Completed Time Signal – **Parameter**: 1-5000 ms	x		
126	326	Match Weighing Time – **Parameter**: Weighing Time – 5000 ms	x		
127	N/A	Object Counts – **Parameter**: 0-5	x		
128	N/A	Total Counts – **Parameter**: 0-99,999,999	x		
129	N/A	Dynamic Weight	x		
130	N/A	Real Weighing Time	x		
138	N/A	Valid Weight Counts - **Parameter**: 0-99,999,999	x		
139	N/A	Invalid Weight Counts - **Parameter**: 0-99,999,999	x		
N/A	336	Control Command – Dynamic Application – **Parameter**: 0 = Stop1 = Run	x		

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
N/A	337	Clear Statistics – **Parameter**: 1 = clear	x		
140	340	Zero State – **Parameter**: 0-100 d	x		
141	341	Empty State – **Parameter**: 0-1000 d	x		
142	342	Over Weight – **Parameter**: 0-capacity	x		
143	343	Under Weight – **Parameter**: 0-capacity	x		
144	344	Photoeye Timeout – **Parameter**: 0-5000 ms	x		
146	346	Dynamic Zero Enable - **Parameter**: 0 = Disable1 = Enable	x		
147	347	Dynamic Zero Threshold – **Parameter**: 0-capacity	x		
148	348	Dynamic Zero Delay – **Parameter**: 1-999 ms	x		
149	349	Dynamic Zero Interval – **Parameter**: 1-999 ms	x		

4.2. Cyclic Commands – IND360 Tank Vessel Application

The cyclic commands listed below are for use with the IND360 Tank Vessel application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Tank Vessel application. Please see the section specific to the application installed on your device if using something other than the IND360 Tank Vessel application. More details about the IND360 Tank Vessel Application can be found in the IND360 Tank Vessel Application Manual.

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
101	301	Target Source – **Parameter**: 0 – Tank Capacity	x	x	x
102	302	Tank Capacity – **Parameter**: 0 – Scale Capacity	x	x	x
103	303	Upper Limit – **Parameter**: 0 – Tank Capacity	x	x	x

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
104	304	Lower Limit – **Parameter**: 0 – Upper Limit	x	x	x
105	305	Lower Limit Alarm – **Parameter**: 0 – Lower Limit	x	x	x
106	306	Over Limit Alarm – **Parameter**: 0 – Tank Capacity	x	x	x
107	N/A	Current Weight	x	x	x
108	N/A	Percentage of tank filled based on capacity	x	x	x
N/A	309	Clear Statistics – **Parameter**: 0 = Disable1 = Enable (Will automatically disable once complete)	x	x	x
110	N/A	Lower Limit Counts – **Parameter**: 0 – 99,999,999	x	x	x
111	N/A	Upper Limit Counts – **Parameter**: 0 – 99,999,999	x	x	x
112	N/A	Refill Counts – **Parameter**: 0 – 99,999,999	x	x	x
N/A	313	Control Command – **Parameter**: 0 = Stop1 = Run	x	x	x

4.3. Cyclic Commands – IND360 Fill Dose Application

The cyclic commands listed below are for use with the IND360 Fill Dose application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Fill Dose application. Please see the section specific to the application installed on your device if using something other than the IND360 Fill Dose application. More details about the IND360 Fill Dose Application can be found in the IND360 Fill Dose Application Manual.

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
101	301	Work Mode – **Parameter**:0 = Fill Dump 1 = Refill Dose	x	x	x
102	302	Feed Speeds – **Parameter**:0 = One Speed 1 = Two Speed 2 = Three Speed	x	x	x

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
103	303	Output Type – **Parameter**:0 = Concurrent 1 = Independent	x	x	x
104	304	Complete Mode – **Parameter**:0 = Weight Mode 1 = Time Mode	x	x	x
N/A	306	Clear Statistics – **Parameter**: 0 = Disable 1 = Enable (Will automatically disable once complete)	x	x	x
107	307	Target Source – **Parameter**: 0 = Gross1 = Net	x	x	x
108	308	Target – **Parameter**: 0 - Capacity	x	x	x
109	309	Spill – **Parameter**: 0 - Capacity	x	x	x
110	310	Fine Feed – **Parameter**: 0 - Capacity	x	x	x
111	311	Fast Feed – **Parameter**: 0 - Capacity	x	x	x
112	312	Heel Weight – **Parameter**: 0 - Capacity	x	x	x
113	313	+ Tolerance – **Parameter**: 0 - Capacity	x	x	x
114	314	- Tolerance – **Parameter**: 0 - Capacity	x	x	x
115	315	Upper Limit – **Parameter**: 0 - Capacity	x	x	x
116	316	Lower Limit – **Parameter**: 0 - Capacity	x	x	x
117	317	Container Tare Max – **Parameter**: 0 - Capacity	x	x	x
118	318	Container Tare Min – **Parameter**: 0 - Capacity	x	x	x
119	319	Inhibit Time – **Parameter**: 0 – 9.99 seconds	x	x	x
120	320	Stable Time – **Parameter**: 0 – 9.99 seconds	x	x	x
121	321	Complete Time – **Parameter**: 0 – 9.99 seconds	x	x	x
122	322	Control Timeout – **Parameter**: 0 – 99.99 seconds	x	x	x
123	323	Process Timeout – **Parameter**: 0 – 99.99 seconds	x	x	x
124	324	Self Learning Mode – **Parameter**: 0 = None1 = Spill Learning 2 = All Learning	x	x	x
125	325	Spill Adjust Period – **Parameter**: 1 - 9	x	x	x
126	326	Spill Adjust Factor – **Parameter**: 0.1 – 0.9	x	x	x
127	327	Spill Adjust Range – **Parameter**: 0 - Capacity	x	x	x
129	329	Control Reliability – **Parameter**: 3 = 93.32% 4 = 99.379% 5 = 99.977% 6 = 99.9997%	x	x	x

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
130	330	Learning Samples – **Parameter**: 6, 9, 12, 15, 9999	x	x	x
131	331	Adjust Factor – **Parameter**: 0.1 – 0.9	x	x	x
132	N/A	Filling Dosing Weight	x	x	x
133	N/A	Min Cycle Time	x	x	x
134	N/A	Max Cycle Time	x	x	x
135	N/A	Total Cycle Weight	x	x	x
136	N/A	Total Buckets	x	x	x
137	N/A	Valid Buckets	x	x	x
N/A	338	Control Command – **Parameter**: 0 = Stop 1 = Run 2 = Pause	x	x	x
140	340	Dump Timeout – **Parameter**: 0 – 99.99s	x	x	x
141	341	Initial Feed Timeout – **Parameter**: 0 – 99.99s	x	x	x
142	342	Jog Mode Selection	x	x	x
143	343	Jog Pulse Duration Time	x	x	x
144	344	Jog Pause Duration Time	x	x	x
145	345	Jog Max Cycles	x	x	x

4.4. Cyclic Commands – IND360 Rate Control Application

The cyclic commands listed below are for use with the IND360 Rate Control application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Rate Control application. Please see the section specific to the application installed on your device if using something other

than the IND360 Rate Control application. More details about the IND360 Rate Control Application can be found in the IND360 Rate Control Application Manual.

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
101	301	Flow Target – **Parameter**: 0.1 – Rated Flow	x		
102	302	Flow Control Mode – **Parameter:** 0 = Flow Control Mode 1 = Fixed Frequency Control Mode 2 = Rapid Cal 3 = Step Cal	x		
103	303	Refill Control Mode – **Parameter:** 0 = Fixed Frequency 1 = Follow Mode 2 = Level Switch Mode	x		
104	304	Upper Limit – **Parameter**: 0 - Capacity	x		
105	305	Lower Limit – **Parameter**: 0 - Capacity	x		
106	306	Control Rate Upper Limit – **Parameter**: 0 - 1	x		
107	307	Control Rate Lower Limit – **Parameter**: 0 - 1	x		
108	308	Rated Flow – **Parameter**: 0.1 – 99,999	x		
109	309	Control Filter – **Parameter**: 0 - 9	x		
110	310	Flow Filter – **Parameter**: 0 - 9	x		
111	311	Control Tolerance – **Parameter**: 0 - 1	x		
112	312	Flow Tolerance – **Parameter**: 0 - 1	x		
113	313	Test Time – **Parameter**: 0 – 9,999 Seconds	x		
114	314	Flow Stability Range – **Parameter**: 0 - 20	x		
115	315	Flow Stability Time – **Parameter**: 0 - 20	x		
116	316	Start Delay Time – **Parameter**: 0 – 9,999	x		
117	317	Refill Delay Time – **Parameter**: 0 – 9,999	x		
118	318	PID Mode – **Parameter:** 0 = Auto PID 1 = Manual PID	x		
119	319	Proportional Term (P) – **Parameter**: 0 – 255	x		
120	320	Intergral Term (I) – **Parameter**: 0 – 255	x		
121	321	Derivative Term (D) – **Parameter**: 0 – 255	x		
122	322	Control Rate Factor – **Parameter**: 0 – 2	x		
123	323	Refill Control Rate Factor – **Parameter**: 0 – 2	x		
124	324	Refill Control Rate Target – **Parameter**: 0 - 1	x		
125	325	Control Rate Target – **Parameter**: 0 - 1	x		
126	326	Rapid Cal. Time – **Parameter**: 10 - 60	x		
127	N/A	20% Flow Rate – **Parameter**: 0 – 99,999	x		
128	N/A	40% Flow Rate – **Parameter**: 0 – 99,999			
129	N/A	60% Flow Rate – **Parameter**: 0 – 99,999	x		
130	N/A	80% Flow Rate – **Parameter**: 0 – 99,999	x		

Read	Write	Description	IND360 Analog	IND360 POWERCELL	IND360 Precision
131	N/A	100% Flow Rate – **Parameter**: 0 – 99,999	x		
132	N/A	Control Rate	x		
133	333	Refill Time – **Parameter**: 0 – 9,999 seconds	x		
134	N/A	Flow	x		
136	N/A	Cumulant	x		
137	N/A	Work Cumulant	x		
138	N/A	Test Cumulant	x		
N/A	339	Control Command – **Parameter:** 0 = Stop 1 = Run	x		
N/A	340	Clear Totalization – **Parameter:** 1 = Clear	x		

4.5. Cyclic Commands – IND500x Basic Auto-filling Application

The cyclic commands listed below are for use with the IND500x Basic Auto-filling application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND500x Basic Auto-filling application. Please see the section specific to the application installed on your device if using something other than the IND500x Basic Auto-filling application. More details about the application can be found in the IND500x Manual.

Read	Write	Description	IND500x
20	220	Report/Write Target Weight	x
21	221	Feed Dribble Value – **Parameter**: 0 - Capacity	x
25	225	Spill/Pre-act value – **Parameter**: 0-Capacity	x
26	226	(-) Tolerance Weight	x
27	227	(+) Tolerance Weight	x
28	228	(-) Tolerance %	x
29	229	(+) Tolerance %	x
N/A	338	Control Command – **Parameter:** 0 = Stop 1 = Run 2 = Pause 4 = Jog 5 = Jog Complete 6 = Resume 7 = Silence Alarm 8 = OK Key 9 = No Key 11 = Refill 12 = Dump 13 = Manual Accept	x

Read	Write	Description	IND500x
155	355	Active Tolerance Type – **Parameter**: – 0 = Target Deviation 1 = Exact Limits 2 = % of Target	x
N/A	504	Apply Target	x
N/A	505	Target use gross weight	x
N/A	506	Target use net weight	x

4.6. Cyclic Commands – IND500x Advanced Auto-filling Application

The cyclic commands listed below are for use with the IND500x Advanced Auto-filling application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND500x Advanced Auto-filling application. Please see the section specific to the application installed on your device if using something other than the IND500x Advanced Auto-filling application. More details about the application can be found in the IND500x Manual.

Read	Write	Description	IND500x
20	220	Report/Write Target Weight – **Parameter**: 0 - Capacity	x
21	221	Feed Dribble Value – **Parameter**: 0 - Capacity	x
25	225	Spill/Pre-act value – **Parameter**: 0-Capacity	x
26	226	(-) Tolerance Weight, any weight below Target – Tolerance Weight will be classified as underfilled – **Parameter**: 0 - Capacity	x
27	227	(+) Tolerance Weight, any weight above Target + Tolerance Weight will be classified as overfilled – **Parameter**: 0 - Capacity	x
28	228	(-) Tolerance %, any weight below (Target – (Tolerance% * Target / 100)) will be classified as underfilled – **Parameter**: 0% – 100%	x
29	229	(+) Tolerance %, any weight above (Target + (Tolerance% * Target / 100)) will be classified as overfilled – **Parameter**: 0% – 100%	x
101	301	Work Mode – **Parameter**: 0 = Fill Dump; 1 = Refill Dose 2 = Fill 3 = Dose 6 = Manual 7 = Top Fill 8 = Above Level 9 = Below Level 99 = None	x
102	302	Number of feed speeds – **Parameter**: – 0 = 1 speed 1 = 2 speeds	x
103	303	Feed Type – **Parameter:** 0 = Concurrent 1 = Independent	x
117	317	Container Tare Minimum	x

Read	Write	Description	IND500x
118	318	Container Tare Maximum	x
132	N/A	Actual Result Weight, value corresponds to actual filled weight, dosed weight, dumped weight or blended weight depending on work mode used	x
151	351	Active Material ID from Material Table – **Parameter**: 0 - 999	x
152	352	Active Target ID – **Parameter**: 0 - 999	x
153	353	Active Tare ID – **Parameter**: 0 - 999	x
154	354	Active Material Path ID – **Parameter**: 0 - 999	x
155	355	Active Tolerance Type – **Parameter**: 0 = Target Deviation 1 = Exact Limits 2 = % of Target	x
156	356	Active Target Weight Unit – **Parameter:** 0 = g 1 = kg 2 = lb 3 = t 4 = ton 5 = lboz 6 = otz 7 = dwt 8 = oz 9 = mg 10 = µg 11 = cus	x
157	357	Active Tare Value	x
158	358	Active Tare Unit – **Parameter:** 0 = g 1 = kg 2 = lb 3 = t 4 = ton 5 = lboz 6 = otz 7 = dwt 8 = oz 9 = mg 10 = µg 11 = cus	x
N/A	338	Control Command – **Parameter**: 0 = Stop 1 = Run 2 = Pause 4 = Jog 5 = Jog Complete 6 = Resume 7 = Silence Alarm 8 = OK Key 9 = No Key 11 = Refill 12 = Dump 13 = Manual Accept	x

4.7. Cyclic Commands – IND500x Drum Filling Application

The cyclic commands listed below are for use with the IND500x Drum Filling application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND500x Drum Filling application. Please see the section specific to the application installed on your device if using something other than the IND500x Drum Filling application. More details about the application can be found in the IND500x Manual.

Read	Write	Description	IND500x
20	220	Report/Write Target Weight – **Parameter**: 0 - Capacity	x
21	221	Feed Value – **Parameter**: 0 - Capacity	x
25	225	Spill/Pre-act value – **Parameter**: 0 - Capacity	x

Read	Write	Description	IND500x
26	226	(-) Tolerance Weight, any weight below Target – Tolerance Weight will be classified as underfilled – **Parameter**: – 0 - Capacity	x
27	227	(+) Tolerance Weight, any weight above Target + Tolerance Weight will be classified as overfilled – **Parameter:** 0 - Capacity	x
28	228	(-) Tolerance %, any weight below (Target – (Tolerance% * Target / 100)) will be classified as underfilled – **Parameter:** 0% – 100%	x
29	229	(+) Tolerance %, any weight above (Target + (Tolerance% * Target / 100)) will be classified as overfilled – **Parameter:** 0% – 100%	x
101	301	Work Mode – **Parameter:** 0 = Fill Dump 1 = Refill Dose 2 = Fill 3 = Dose 6 = Manual 7 = Top Fill 8 = Above Level 9 = Below Level99 = None	x
102	302	Number of feed speeds – **Parameter:** 0 = 1 speed 1 = 2 speeds	x
103	303	Feed Type – **Parameter:** 0 = Concurrent 1 = Independent	x
117	317	Container Tare Minimum	x
118	318	Container Tare Maximum	x
132	N/A	Actual Result Weight	x
151	351	Active Material ID from Material Table – **Parameter**: 0 - 999	x
152	352	Active Target ID – **Parameter**: 0 - 999	x
153	353	Active Tare ID – **Parameter**: 0 - 999	x
154	354	Active Material Path ID – **Parameter**: 0 - 999	x
155	355	Active Tolerance Type – **Parameter**: 0 = Target Deviation 1 = Exact Limits 2 = % of Target	x
156	356	Active Target Weight Unit – **Parameter**: 0 = g 1 = kg 2 = lb 3 = t 4 = ton 5 = lboz 6 = otz 7 = dwt 8 = oz 9 = mg 10 = µg 11 = cus	x
157	357	Active Tare Value	x
158	358	Active Tare Unit – **Parameter**: 0 = g 1 = kg 2 = lb 3 = t 4 = ton 5 = lboz 6 = otz 7 = dwt 8 = oz 9 = mg 10 = µg 11 = cus	x
N/A	338	Control Command – **Parameter**: 0 = Stop 1 = Run 2 = Pause 4 = Jog 5 = Jog Complete 6 = Resume 7 = Silence Alarm 8 = OK Key 9 = No Key 13 = Manual Accept	x

4.8. Cyclic Commands – IND500x Over Under Application

The cyclic commands listed below are for use with the IND500x Over/Under application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND500x Over/Under application. Please see the section specific to the application installed on your device if using something other than the IND500x Over/Under application. More details about the application can be found in the IND500x Manual.

Read	Write	Description	IND500x
20	220	Report/Write Target Weight	x
26	226	(-) Tolerance Weight	x
27	227	(+) Tolerance Weight	x
28	228	(-) Tolerance %	x
29	229	(+) Tolerance %	x
N/A	504	Apply Target	x
N/A	505	Target use gross weight	x
N/A	506	Target use net weight	x

4.9. Cyclic Commands – IND500x Manual Filling Application

The cyclic commands listed below are for use with the IND500x Over/Under application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND500x Manual Filling application. Please see the section specific to the application installed on your device if using something other than the IND500x Manual Filling application. More details about the application can be found in the IND500x Manual.

Read	Write	Description	IND500x
20	220	Report/Write Target Weight	x
26	226	(-) Tolerance Weight	x
27	227	(+) Tolerance Weight	x

Read	Write	Description	IND500x
28	228	(-) Tolerance %	x
29	229	(+) Tolerance %	x
N/A	504	Apply Target	x
N/A	505	Target use gross weight	x
N/A	506	Target use net weight	x

5 Acyclic Command List

The chart below shows acyclic commands that can be sent and which devices support specific commands. In the case of IND360, some commands are supported only for versions of the device with applications built-in and not the base versions. These application-specific acyclic commands have been separated into the tables found in Sections 5.1 to 5.4.

To send an acyclic command, use the information for the command corresponding to your automation protocol (EtherNet/IP, PROFIBUS DP, PROFINET, EtherCAT, CC-Link IE Field Basic). All devices covered by this manual provide sample code and detailed engineering notes for each automation protocol with examples of acyclic commands. Sample code and engineering notes can be found on www.mt.com on your device's downloads page.

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Gross weight - rounded	Gross weight data in defined resolution	read	Float 32	1	0x14	0x300	0x01	0x01	0, 1	0x2000	0x1000	x	x	x	x	x	x	x	x
Gross weight - rounded	Gross weight data in defined resolution	read	Float 32	1	0x15	0x300	0x01	0x02	0, 1	0x2001	0x1002	x	x	x	x	x	x	x	x
Tare weight - rounded	Tare weight data in defined resolution	read	Float 32	1	0x16	0x300	0x01	0x03	0, 1	0x2002	0x1004	x	x	x	x	x	x	x	x
Net weight - rounded	Net weight data in defined resolution	read	Float 32	1	0x17	0x300	0x01	0x04	0, 1	0x2003	0x1006	x	x	x	x	x	x	x	x
Gross weight - internal resolution	Gross weight data in internal resolution	read	Float 32	1	0x18	0x300	0x01	0x05	0, 1	0x2004	0x1008	x	x	x	x	x	x	x	x
Tare weight - internal resolution	Tare weight data in internal resolution	read	Float 32	1	0x19	0x300	0x01	0x06	0, 1	0x2005	0x100A	x	x	x	x	x	x	x	x
Net weight - internal resolution	Net weight data in internal resolution	read	Float 32	1	0x1A	0x300	0x01	0x07	0, 1	0x2006	0x100C	x	x	x	x	x	x	x	x
Zero adjustment count (Read)	Zero Register	read/ write	Float 32	1	0x20	300	0x01	12	0, 1	0x2007	0x702E					x	x		
Tare procedure status bits	Report Tare operation status (used when triggering tare from acyclic interface) – **Parameter**: 0 = tare procedure complete 1 = tare procedure in process	read	UInt 16	1	0x1F	0x300	0x01	0x16	0, 1	0x2008	0x2003	x	x	x	x	x	x	x	
Zero procedure status bits	Report Zero operation status (used when triggering zero from acyclic interface) – **Parameter**: 0 = zero procedure complete 1 = zero procedure in process	read	Uint 16	1	0x24	0x300	0x01	0x17	0, 1	0x2009	0x2005	x	x	x	x	x	x	x	
Weight Unit	Weight unit (number representing unit from Scale Status Group 2)	read/ write	Byte, 1	1	0x99	0x300	0x01	0x18	0, 1	0x200A	0x100E	x	x	x		x	x	x	x
Tare when stable	Tare when within motion limit	write	Uint 8	1	0x1C	0x300	0x01	0x09	0, 1	0x2010	0x2002	x	x	x	x	x	x	x	
Tare immediately	Motion not checked, tare executed	write	Uint 8	1	0x1E	0x300	0x01	0x10	0, 1	0x2011	0x2007	x	x	x	x	x	x	x	
Clear tare	Motion not checked, clear tare executed	write	Uint 8	1	0x1D	0x300	0x01	0x11	0, 1	0x2012	0x2006	x	x	x	x	x	x	x	x
Zero when stable	Zero when within motion limit	write	Uint 8	1	0x22	0x300	0x01	0x14	0, 1	0x2013	0x2004	x	x	x	x	x	x	x	x
Zero immediately	Motion not checked, zero executed	write	Uint 8	1	0x23	0x300	0x01	0x15	0, 1	0x2014	0x2008	x	x	x	x	x	x	x	
Preset tare (display unit)	Write tare register (Preset Tare) – **Parameter**: Pre-tare weight (float 32)	write	Float 32	1	0x1B	0x300	0x01	0x08	0, 1	0x2020	0x2000	x	x	x	x	x	x	x	x
Clear Alarm	Clear Alarm	write	Byte, 1	1	0x25	301	0x01	01	0, 1	0x2030	N/A								x
Turn all internal & external outputs OFF	Forces all outputs OFF	write	Byte, 1	1	0x26	0x301	0x01	0x02	0, 1	0x2031	0x9000	x	x	x	x	x	x	x	x
Report scale status group	Scale status group according to specification in Section 2.1 of this document	read	Short, 2	1	0x27	0x302	0x01	0x01	0, 1	0x2040	0xA010	x	x	x	x	x	x	x	
Alarm status group	Application Specific Errors according to specification in Section 2.4 of this document	read	Short, 2	1	0x28	0x302	0x01	0x02	0, 1	0x2041	0xA011	x	x	x	x	x	x	x	
Report RedAlert group	RedAlert status according to specification in Section 2.2 of this document	read	Short, 2	1	0x29	0x302	0x01	0x03	0, 1	0x2042	0xA012	x	x	x	x	x	x	x	
Report scale status group	Scale Status Group 2 according to specification in Section 2.3 of this document	read	Short, 2	1	0x2A	0x302	0x01	0x04	0, 1	0x2043	0xA013	x	x	x	x	x	x	x	
Model type part 1	Identification (main ID)	read	String 160	1	0x2B	0x303	0x01	0x01	0, 1	0x2050	N/A	x	x	x	x				x
Model type part 2	Identification # 2	read	String 160	1	0x2C	0x303	0x01	0x02	0, 1	0x2051	N/A	x	x	x	x				x
Model type part 3	Identification # 3	read	String 160	1	0x2D	0x303	0x01	0x03	0, 1	0x2052	N/A	x	x	x	x				x
Software OS version	Software OS Version	read	String (36 Byte)	1	0x2E	0x303	0x01	0x04	0, 1	0x2053	0x3000	x	x	x	x	x	x	x	x
Fieldbus stack version	Fieldbus Stack version	read	String (36 Byte)	1	0x2F	0x303	0x01	0x05	0, 1	0x2054	0x3012	x	x	x	x	x	x	x	x

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Software application version	Software Apps Version	read	String (36 Byte)	1	0x30	0x303	0x01	0x06	0, 1	0x2055	0x3024				x	x	x	x	x
SAI version	SAI specification version number	read	String (36 Byte)	1	0x31	0x303	0x01	0x07	0, 1	0x2056	0x3036	x	x	x	x	x	x	x	x
Serial number	Device main serial number	read	String (36 Byte)	1	0x33	0x303	0x01	0x08	0, 1	0x2057	0x3048				x	x	x	x	
Device identification	user configurable ID	read	String (36 Byte)	1	0x34	0x303	0x01	0x09	0, 1	0x2058	0x305A				x			x	
Query of the remaining weighing ranges	Remaining Weighing Ranges	read	String 36	1	0x35	0x303	0x01	0x10	0, 1	0x2059	0x5015				x			x	
Get initial zero information	Initial zero information	read	String 60	1	0x36	0x303	0x01	0x11	0, 1	0x205A	0x5027				x			x	
Start adjustment with internal weight	Start Internal Adjustment	write	Byte, 1	1	0x80	0x410	0x01	0x01	0, 1	0x4001	0x7000				x			x	
Start adjustment with external weight	Start External Adjustment	write	Byte, 1	1	0x81	0x410	0x01	0x02	0, 1	0x4002	0x7001				x			x	
Start customer standard calibration	Start User Standard Adjustment	write	Byte, 1	1	0x82	0x410	0x01	0x03	0, 1	0x4003	0x7002				x			x	
Cancel adjustment / test (Abort Test Function / Adjustment)	Abort Test Function / Adjustment	write	Byte, 1	1	0x83	0x410	0x01	0x04	0, 1	0x4004	0x7003	x	x	x	x	x	x	x	
Start test with internal weight	Start Test Function with internal weight	write	Byte, 1	1	0x84	0x410	0x01	0x05	0, 1	0x4005	0x7004				x			x	
Start test with external weight	Start Test Function with external weight	write	Byte, 1	1	0x85	0x410	0x01	0x06	0, 1	0x4006	0x7005				x			x	
Adjustment and test status Information	Adjustment / Test status	read	Byte, 2	1	0x86	0x410	0x01	0x07	0, 1	0x4007	0x7006	x	x	x	x	x	x	x	
Test deviation	Adjustment / Test value	read	Float 32	1	0x87	0x410	0x01	0x08	0, 1	0x4008	0x7007				x			x	
External adjustment weight	Set external adjustment weight and start adjust – **Parameter**: Weight in unit selected according to Scale Status Group 2	write	Float 32	1	0x88	0x410	0x01	0x09	0, 1	0x4009	0x7009	x	x	x	x	x	x	x	
Number of linearity ranges	Number of points of linearity to be used – **Parameter**: 0 = None 1 = 3 points of linearity 2 = 4 points of linearity 3 = 5 points of linearity	read/ write	Byte, 2	1	0x89	0x410	0x01	0x0A	0, 1	0x400A	0x700B	x	x	x		x	x		
Zero Adjustment	Resets the zero (absolute reference)	write	Byte, 1	1	0x8A	0x410	0x01	0x0B	0, 1	0x400B	0x700C	x	x	x		x	x		
Span Adjustment Value 1 xLow	Used in 5 point linearity adjustment	read/ write	Float 32	1	0x8C	0x410	0x01	0x0C	0, 1	0x400C	0x700D	x	x	x		x	x		
Span Adjustment Value 2 Low	Used in 5 point and 4 point linearity adjustment	read/ write	Float 32	1	0x8D	0x410	0x01	0x0D	0, 1	0x400D	0x700F	x	x	x		x	x		
Span Adjustment Value 3 Middle	Used in 5, 4 and 3 point linearity adjustment	read/ write	Float 32	1	0x8E	0x410	0x01	0x0E	0, 1	0x400E	0x7011	x	x	x		x	x		
Span Adjustment Value 4 High	Used in all forms of span adjustment	read/ write	Float 32	1	0x8F	0x410	0x01	0x0F	0, 1	0x400F	0x7013	x	x	x		x	x		
Validate (Confirm) Adjustment	Validate Adjustment	read/ write	Byte, 1	1	0x90	0x410	0x01	0x10	0, 1	0x4010	0x7015	x	x	x		x	x		
Requested weight	Get currently requested external calibration weight during ongoing adjustment or calibration procedure	read	Float 32	1	0x91	0x410	0x01	0x11	0, 1	0x4011	0x7016				x			x	
External test weight	Set external calibration test weight unless default shall be used – **Parameter**: Weight in unit selected according to Scale Status Group 2	write	Float 32	1	0x92	0x410	0x01	0x12	0, 1	0x4012	0x7018				x			x	

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Span Adjustment Counts 1 xLow	Used with Span adjustment value to read/write calibration	read/ write	long, 4	1	0x93	0x410	0x01	0x13	0, 1	0x4013	0x701A	x	x	x		x	x		
Span Adjustment Counts 2 Low	Used with Span adjustment value to read/write calibration	read/ write	long, 4	1	0x94	0x410	0x01	0x14	0, 1	0x4014	0x701C	x	x	x		x	x		
Span Adjustment Counts 3 Middle	Used with Span adjustment value to read/write calibration	read/ write	long, 4	1	0x95	0x410	0x01	0x15	0, 1	0x4015	0x701E	x	x	x		x	x		
Span Adjustment Counts 4 High	Used with Span adjustment value to read/write calibration	read/ write	long, 4	1	0x96	0x410	0x01	0x16	0, 1	0x4016	0x7020	x	x	x		x	x		
Set number of steps & begin step calibration	Set number of steps and begin step calibration	write	Byte, 1	1	0x97	0x410	0x01	0x17	0, 1	0x4017	0x7022	x	x	x		x	x		
Sets weight value for current step in calibration & starts step	Set weight value for current step in calibration and starts step	write	Float 32	1	0x98	0x410	0x01	0x18	0, 1	0x4018	0x7023	x	x	x		x	x		
Calfree	Triggers CalFree calibration start	write	Byte, 2	1	0x9B	0x410	0x01	0x1A	0, 1	0x401A	0x7025	x	x			x			
Calfree cell capacity	**Parameter** for CalFree	read/ write	Float 32	1	0x9C	0x410	0x01	0x1B	0, 1	0x401B	0x7026	x	x			x			
Calfree unit	**Parameter** for CalFree	read/ write	Byte, 1	1	0x9D	0x410	0x01	0x1C	0, 1	0x401C	0x7028	x	x			x			
Calfree cell output	**Parameter** for CalFree	read/ write	Float 32	1	0x9E	0x410	0x01	0x1D	0, 1	0x401D	0x7029	x	x			x			
CalFree Plus	Trigger CalFree Plus calibration start	read/ write	Byte, 2	1	0x9F	0x410	0x01	0x1E	0, 1	0x401E	0x702B			x			x		
Get temporary weight in step mode	Set weight value for current step in calibration and starts step	read	float, 4	1	0x8B	0x410	0x01	0x1F	0, 1	0x401F	N/A	x	x	x					
Enable / Disable step control C5		Read/ write	Byte, 1	1	0x8B	0x410	0x01	0x1F	0, 1	0x401F	0x7030				x			x	
Zero adjustment count	Resets the zero (absolute reference)	read/ write	long, 4	1	0xE5	0x410	0x01	0x20	0, 1	0x4020	N/A	x	x	x					
Sensitivity adjustment (Triggered) C8 1 -4		read/ write	Byte, 1	1	0xE5	0x410	0x01	0x20	0, 1	0x4020	0x7031				x			x	
Sensitivity adjustment (Display weight) C8 7	Sensitivity adjustment (displayed weight)	write	Struct 32 (Float, Float)	3	0x02	0x410	0x01	0x21	0, 1	0x4021	0x7032				x			x	
Internal adjustment PBK/PFK	Internal adjustment (MTCS C9, 1)	write	Byte, 1	3	0x03	0x410	0x01	0x22	0, 1	0x4022	0x7034							x	
Get temporary weight in step mode	Get temporary weight in step mode	Read	Float 32	3	0x04	0x410	0x01	0x23	0, 1	0x4023	0x702C					x	x		
Comparator status group 1	Comparator status group 1	read	short, 2	1	0xD0	0x411	0x01	0x01	0, 1	0x4051	0xA014	x	x	x	x	x	x	x	
Comparator Status Group 2	Comparator Status Group 2	Read	Short, 2	2	0x01	0x411	0x01	0x02	0, 1	0x4052	N/A								
Report # of Comparator used	Read how many comparators are used	read	Byte, 1	2	0x03	0x411	0x01	0x04	0, 1	0x4054	N/A	x	x	x	x				
Write # of Comparator used	Write how many comparators are used	write	Byte, 1	2	0x03	0x411	0x01	0x04	0, 1	0x4054	N/A	x	x	x	x				
Report/Write Comparator 1 Limit	Read/Write value for comparator # 1	read/ write	Float 32	2	0x04	0x411	0x01	0x05	0, 1	0x4055	0x8000	x	x	x	x	x	x	x	x
Report/Write Comparator 2 Limit	Read/Write value for comparator # 2	read/ write	Float 32	2	0x05	0x411	0x01	0x06	0, 1	0x4056	0x8002	x	x	x	x	x	x	x	x
Report/Write Comparator 3 Limit	Read/Write value for comparator # 3	read/ write	Float 32	2	0x06	0x411	0x01	0x07	0, 1	0x4057	0x8004	x	x	x	x	x	x	x	x
Report/Write Comparator 4 Limit	Read/Write value for comparator # 4	read/ write	Float 32	2	0x07	0x411	0x01	0x08	0, 1	0x4058	0x8006	x	x	x	x	x	x	x	x
Report/Write Comparator 5 Limit	Read/Write value for comparator # 5	read/ write	Float 32	2	0x08	0x411	0x01	0x09	0, 1	0x4059	0x8008	x	x	x	x	x	x	x	x
Report/Write Comparator 6 Limit	Read/Write value for comparator # 6	read/ write	Float 32	2	0x09	0x411	0x01	0x0A	0, 1	0x405A	0x800A					x	x	x	

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Report/Write Comparator 7 Limit	Read/Write value for comparator # 7	read/ write	Float 32	2	0x0A	0x411	0x01	0x0B	0, 1	0x405B	0x800C					x	x	x	
Report/Write Comparator 8 Limit	Read/Write value for comparator # 8	read/ write	Float 32	2	0x0B	0x411	0x01	0x0C	0, 1	0x405C	0x800E					x	x	x	
Apply Comparator trigger	Instructs device to use new comparator values	write	Byte, 1	2	0x1E	0x411	0x01	0x1F	0, 1	0x406F	0x8060	x	x	x	x	x	x	x	
Report / Write Comparator 1 High Limit	Comparator 1 configuration high limit	read/ write	Float 32	4	0x00	0x411	1	0x20	0, 1	0x4070	0x8020					x	x	x	x
Report / Write Comparator 2 High Limit	Comparator 2 configuration high limit	read/ write	Float 32	4	0x01	0x411	1	0x21	0, 1	0x4071	0x8022					x	x	x	x
Report / Write Comparator 3 High Limit	Comparator 3 configuration high limit	read/ write	Float 32	4	0x02	0x411	1	0x22	0, 1	0x4072	0x8024					x	x	x	x
Report / Write Comparator 4 High Limit	Comparator 4 configuration high limit	read/ write	Float 32	4	0x03	0x411	1	0x23	0, 1	0x4073	0x8026					x	x	x	x
Report / Write Comparator 5 High Limit	Comparator 5 configuration high limit	read/ write	Float 32	4	0x04	0x411	1	0x24	0, 1	0x4074	0x8028					x	x	x	x
Report / Write Comparator 6 High Limit	Comparator 6 configuration high limit	read/ write	Float 32	4	0x05	0x411	1	0x25	0, 1	0x4075	0x802A					x	x	x	
Report / Write Comparator 7 High Limit	Comparator 7 configuration high limit	read/ write	Float 32	4	0x06	0x411	1	0x26	0, 1	0x4076	0x802C					x	x	x	
Report / Write Comparator 8 High Limit	Comparator 8 configuration high limit	read/ write	Float 32	4	0x07	0x411	1	0x27	0, 1	0x4077	0x802E					x	x	x	
Target – Use Gross Weight	Use gross weight as source for target comparison	write	Short	4	0x08	0x411	1	0x28	0, 1	0x4078									x
Target – Use Net Weight	Use net weight as source for target comparison	Write	Short	4	0x09	0x411	1	0x29	0, 1	0x4079									x
Read / Write Comparator 1 Source	Comparator 1 source configuration	read/ write	Byte, 1	4	0x10	0x411	1	0x30	0, 1	0x4080	0x8040					x	x	x	
Read / Write Comparator 2 Source	Comparator 2 source configuration	read/ write	Byte, 1	4	0x11	0x411	1	0x31	0, 1	0x4081	0x8041					x	x	x	
Read / Write Comparator 3 Source	Comparator 3 source configuration	read/ write	Byte, 1	4	0x12	0x411	1	0x32	0, 1	0x4082	0x8042					x	x	x	
Read / Write Comparator 4 Source	Comparator 4 source configuration	read/ write	Byte, 1	4	0x13	0x411	1	0x33	0, 1	0x4083	0x8043					x	x	x	
Read / Write Comparator 5 Source	Comparator 5 source configuration	read/ write	Byte, 1	4	0x14	0x411	1	0x34	0, 1	0x4084	0x8044					x	x	x	
Read / Write Comparator 6 Source	Comparator 6 source configuration	read/ write	Byte, 1	4	0x15	0x411	1	0x35	0, 1	0x4085	0x8045					x	x	x	
Read / Write Comparator 7 Source	Comparator 7 source configuration	read/ write	Byte, 1	4	0x16	0x411	1	0x36	0, 1	0x4086	0x8046					x	x	x	
Read / Write Comparator 8 Source	Comparator 8 configuration high limit	read/ write	Byte, 1	4	0x17	0x411	1	0x37	0, 1	0x4087	0x8047					x	x	x	
Read / Write Comparator 1 Active	Comparator 1 active	read/ write	Byte, 1	4	0x20	0x411	1	0x40	0, 1	0x4090	0x8050					x	x	x	
Read / Write Comparator 2 Active	Comparator 2 active	read/ write	Byte, 1	4	0x21	0x411	1	0x41	0, 1	0x4091	0x8051					x	x	x	
Read / Write Comparator 3 Active	Comparator 3 active	read/ write	Byte, 1	4	0x22	0x411	1	0x42	0, 1	0x4092	0x8052					x	x	x	
Read / Write Comparator 4 Active	Comparator 4 active	read/ write	Byte, 1	4	0x23	0x411	1	0x43	0, 1	0x4093	0x8053					x	x	x	
Read / Write Comparator 5 Active	Comparator 5 active	read/ write	Byte, 1	4	0x24	0x411	0x01	0x44	0, 1	0x4094	0x8054					x	x	x	

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Read / Write Comparator 6 Active	Comparator 6 active	read/ write	Byte, 1	4	0x25	0x411	0x01	0x45	0, 1	0x4095	0x8055					x	x	x	
Read / Write Comparator 7 Active	Comparator 7 active	read/ write	Byte, 1	4	0x26	0x411	0x01	0x46	0, 1	0x4096	0x8056					x	x	x	
Read / Write Comparator 8 Active	Comparator 8 active	read/ write	Byte, 1	4	0x27	0x411	0x01	0x47	0, 1	0x4097	0x8057					x	x	x	
Print	Execute ePrint	Write	Uint 8	2	0x70	0x412	0x01	0x01	0, 1	0x4101	0x2009					x	x	x	
Report custom group 1	Custom group 1 status	Read	Short, 2	2	0x71	0x412	0x01	0x02	0, 1	0x4102	0xA015					x	x	x	
Report custom group 2	Custom group 2 status	read	Short, 2	2	0x72	0x412	0x01	0x03	0, 1	0x4103	0xA016						x		
Voltage monitor channels	View voltage monitor channels	read	Struct 256	1	0xB0	0x413	0x01	0x11	0, 1	0x4161	N/A								
Load cycle monitor channels	view load cycle monitor channels	read	Struct 512	1	0xB1	0x413	0x01	0x12	0, 1	0x4162	N/A								
Zero deviation	Query zero deviation	read	Float 32	1	0xB2	0x413	0x01	0x13	0, 1	0x4163	N/A								
Zero deviation monitor channels	view zero deviation monitor channels	read	Struct 256	1	0xB3	0x413	0x01	0x14	0, 1	0x4164	N/A								
Temperature monitor channels	view temperature monitor channels	read	Struct 512	1	0xB4	0x413	0x01	0x15	0, 1	0x4165	N/A								
Temperature gradient	Query temperature gradient	read	Struct 96	1	0xB5	0x413	0x01	0x16	0, 1	0x4166	N/A								
Temperature gradient channels	view temperature gradient channels	read	Struct 128	1	0xB6	0x413	0x01	0x17	0, 1	0x4167	N/A								
Temperature values	Query temperature value (multiple channels)	read	Struct 128	1	0xB7	0x413	0x01	0x18	0, 1	0x4168	N/A				x				
Internal temperature	Query the load cell temperature value	read	Float 32	1	0xB8	0x413	0x01	0x19	0, 1	0x4169	N/A								
Restart device	restart device - software restart	write	Uint 8	1	0xC9	0x413	0x01	0x2A	0, 1	0x417A	N/A				x				
Update CANMaster power diagnosis	Send 1 command to update the voltage and current of CANMaster	write	Byte, 1	1	0xCE	0x413	0x01	0x2E	0, 1	0x417E	N/A			x					
Maximum supply power for LCs	Inquire maximum supply voltage for LCs in history in mV	read	unsigned short, 2	1	0xCF	0x413	0x01	0x2F	0, 1	0x417F	N/A			x					
Maximum supply current for LCs	Inquire maximum supply voltage for LCs in history in mA	read	unsigned short, 2	1	0xEC	0x413	0x01	0x30	0, 1	0x4180	N/A			x					
Supply power error counts	Inquire supply power error counts. Once over current has occurred, the error counts would increase one. Int type, range 0~65535	read	unsigned short, 2	1	0xD1	0x413	0x01	0x31	0, 1	0x4181	N/A			x					
Supply current error counts	Inquire supply current error counts. Once over current has occurred, the error counts would increase one. Int type, range 0~65535	read	unsigned short, 2	1	0xD2	0x413	0x01	0x32	0, 1	0x4182	N/A			x					
Maximum voltage of CANH	Inquire maximum voltage of CANH in mv	read	short, 2	1	0xD3	0x413	0x01	0x33	0, 1	0x4183	N/A			x					
Minimum voltage of CANH	Inquire minimum voltage of CANH in mv	read	short, 2	1	0xD4	0x413	0x01	0x34	0, 1	0x4184	N/A			x					
Maximum voltage of CANL	Inquire maximum voltage of CANL in mv	read	short, 2	1	0xD5	0x413	0x01	0x35	0, 1	0x4185	N/A			x					
Minimum voltage of CANL	Inquire minimum voltage of CANL in mv	read	short, 2	1	0xD6	0x413	0x01	0x36	0, 1	0x4186	N/A			x					
Current supply power for LCs	Inquire the current supply power for LCs	read	short, 2	1	0xD7	0x413	0x01	0x37	0, 1	0x4187	N/A			x					
Current supply current for LCs	Inquire the current supply current for LCs	read	short, 2	1	0xD8	0x413	0x01	0x38	0, 1	0x4188	N/A			x					

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Update LCs voltage diagnosis	Send 1 to update the current VIN_LC, VIN_ COM,V_ SHIELD voltage of LCs, every LC need one second to update data	write	Byte,1	1	0xD9	0x413	0x01	0x39	0, 1	0x4189	N/A			x					
VIN_LC of LCs	Inquire the current VIN_LC voltage of LCs in mV	read	long*1 4,56	1	0xDA	0x413	0x01	0x3A	0, 1	0x418A	N/A			x					
Temperature of LCs	Inquire the current temperature of every LC in °C	read	long*1 4,56	1	0xDB	0x413	0x01	0x3B	0, 1	0x418B	N/A			x					
VIN_COM of LCs	Inquire the current VIN_COM voltage of every LC in mV	read	long*1 4,56	1	0xDC	0x413	0x01	0x3C	0, 1	0x418C	N/A			x					
V_SHIELD of LCs	Inquire the current V_SHIELD voltage of every LC in mV	read	long*1 4,56	1	0xDD	0x413	0x01	0x3D	0, 1	0x418D	N/A			x					
Update LCs gas diagnosis	Send 1 to update the current gas sensor value of LCs, every LC need maximum six seconds to update data	write	Byte, 1	1	0xDE	0x413	0x01	0x3E	0, 1	0x418E	N/A			x					
Gas concentration of LCs	Inquire the current gas sensor value of LCs as percentage	read	long*1 4,56	1	0xDF	0x413	0x01	0x3F	0, 1	0x418F	N/A			x					
Update LCs information	Send 1 to update the current capacity, unit & sw version of LCs. Every LC needs one second to update data	write	Byte, 1	1	0xE0	0x413	0x01	0x40	0, 1	0x4190	N/A			x					
Communication error counts of LCs	Inquire the current communication error counts of every LC. If normal at first then LC communication error occurs, the error counts would increase one. Int type, range 0~65535	read	long*1 4,56	1	0xE1	0x413	0x01	0x41	0, 1	0x4191	N/A			x					
Overload normal range counts of LCs	Inquire the current overload normal range counts of every LC. If weight is normal at first then overload between 101% ~ 150% of LC normal capacity occurs, the error counts would increase one. Int type, range 0~65535	read	long*1 4,56	1	0xE2	0x413	0x01	0x42	0, 1	0x4192	N/A			x					
Overload operate range counts of LCs	Inquire the current overload operate range counts of every LC. If weight is normal at first then overload larger than 150% of LC normal capacity occurs, the error counts would increase one. Int type, range 0~65535	read	long*1 4,56	1	0xE3	0x413	0x01	0x43	0, 1	0x4193	N/A			x					
Temperature beyond normal range counts of LCs	Inquire the current temperature beyond normal range counts of every LC. Once first normal then temperature beyond LC normal range happened, the error counts would increase one. Int type, range 0~65535	read	long*1 4,56	1	0xE4	0x413	0x01	0x44	0, 1	0x4194	N/A			x					
Temperature beyond operate range counts of LCs	Inquire the current temperature beyond operate range counts of every LC. If normal at first then temperature beyond LC operate range occurs, the error counts would increase one. Int type, range 0~65535	read	long*1 4,56	1	0xE5	0x413	0x01	0x45	0, 1	0x4195	N/A			x					
Temperature beyond operate range counts of LCs after temperature RunFlat trigger	Inquire the current temperature beyond operate range counts of every LC after temperature RunFlat trigger. If normal at first then temperature beyond LC operate range occurs, the error counts would increase one. Int type, range 0~65535. The operate ranges differ by LC type (index 736)	read	long*1 4,56	1	0xE6	0x413	0x01	0x46	0, 1	0x4196	N/A			x					
PLC communication failure count	Cable / PLC / Device failure. Each time fieldbus loses connection, count increases by one	read	unsigned short, 2	1	0xE7	0x413	0x01	0x47	0, 1	0x4197	N/A			x					
Scale overload count	Scale overload count	read	unsigned short, 4	1	0xE8	0x413	0x01	0x48	0, 1	0x4198	N/A			x					
Scale calibration count	Scale calibration count	read	unsigned short, 4	1	0xE9	0x413	0x01	0x49	0, 1	0x4199	N/A			x					
Scale zero command count	Scale zero command count	read	unsigned short, 4	1	0xEA	0x413	0x01	0x4A	0, 1	0x419A	N/A			x					
Scale zero command failed count	Scale zero command failed count	read	unsigned short, 4	1	0xEB	0x413	0x01	0x4B	0, 1	0x419B	N/A			x					
Automatic prefilling	Automatic prefilling configuration	read/write	Struct 32	1	0xEF	0x414	0x01	0x01	0, 1	0x4201	N/A								
Material filling duration	Material filling duration configuration	read/write	Uint 16	1	0xF0	0x414	0x01	0x02	0, 1	0x4202	N/A								

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Automatic refilling	Automatic refilling configuration	read/write	Uint 8	1	0xF1	0x414	0x01	0x03	0, 1	0x4203	N/A								
Target weight	Target weight configuration	read/ write	Struct 128	1	0xF2	0x414	0x01	0x04	0, 1	0x4204	N/A								
Optimization function	Optimization function configuration	read/ write	Struct 24	1	0xF3	0x414	0x01	0x05	0, 1	0x4205	N/A								
Weight monitor function	Weight monitor function configuration	read/ write	Struct 480	1	0xF4	0x414	0x01	0x06	0, 1	0x4206	N/A								
Time monitor function	Time monitor function configuration	read/ write	Struct 320	1	0xF5	0x414	0x01	0x07	0, 1	0x4207	N/A								
Filter stability criteria	Filling stability criteria configuration	read/ write	Struct 64	1	0xF6	0x414	0x01	0x08	0, 1	0x4208	N/A								
Filing phase	Filling phase configuration	read/ write	Struct 480	1	0xF7	0x414	0x01	0x09	0, 1	0x4209	N/A								
Automatic tare	Automatic tare configuration	read/ write	Struct 192	1	0xF8	0x414	0x01	0x0A	0, 1	0x420A	N/A								
Digital output function	Digital output function configuration	read/ write	Struct 80	1	0xF9	0x414	0x01	0x0B	0, 1	0x420B	N/A								
Emptying function	Emptying function configuration	read/ write	Struct 48	1	0xFA	0x414	0x01	0x0C	0, 1	0x420C	N/A								
Filling statistics	Filling statistics	read	Struct 224	1	0xFB	0x414	0x01	0x0D	0, 1	0x420D	N/A								
Clear filling statistics	Clear filling statistics	write	Uint 8	1	0xFC	0x414	0x01	0x0E	0, 1	0x420E	N/A								
Filling application status	Filling application status	read	Uint 16	1	0xFD	0x414	0x01	0x0F	0, 1	0x420F	N/A								
Report filling status	Report filling state	read	Uint 8	1	0xFE	0x414	0x01	0x10	0, 1	0x4210	N/A								
Control filling status	control filling	write	Uint 8	1	0xFF	0x414	0x01	0x11	0, 1	0x4211	N/A								
Report/Write low pass frequency	Read/Write low pass Frequency	read/ write	Float 32	1	0x3C	0x415	1	0x01	0, 1	0x4251	0x6006						x		x
Report/Write low pass poles	Report/Write low pass poles	Read/write	Float 32	1	0x3D	0x415	1	0x02	0, 1	0x4252	N/A								
Report/write Stabilty Filter	Stability Filter	read/ write	Float 32	1	0x40	0x415	1	0x05	0, 1	0x4255	0x6008						x		
Weighing mode	weighing filter mode **Parameter**: 0 = Universal weighing 2 = Fix filter	read/ write	Float 32	1	0x41	0x415	0x01	0x06	0, 1	0x4256	0x6000				x	x		x	
Weighing environment	weighing filter level **Parameter**: 0 = Very stable 1 = Stable 2 = Standard 3 = Unstable 4 = Very unstable	read/ write	Float 32	1	0x42	0x415	0x01	0x07	0, 1	0x4257	0x6002				x	x		x	
Cut-off frequency	Configure / Read Cut-Off frequency **Parameter**: 0 = Pre-defined frequency used, changeable over weighing environment 0.001 Hz – 20.0 Hz = Cut-off frequency	read/ write	Float 32	1	0x43	0x415	0x01	0x08	0, 1	0x4258	0x6004				x	x		x	
Cut-off frequency for alternate weight path	Configure / Read Cut-off frequency for alternate weight path	read/ write	Float 32	1	0x69	0x415	0x01	0x0B	0, 1	0x4259	N/A								
Read/Write customer defined overload threshold	Set threshold about the customer overload in divisions	read/ write	Short, 2	1	0x6A	0x415	0x01	0x0C	0, 1	0x425C	0xA000					x	x	x	

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Read/Write customer defined underload threshold	Set threshold about the customer underload in divisions	read/ write	Short, 2	1	0x6B	0x415	0x01	0x0D	0, 1	0x425D	0xA001					x	x	x	
Geo code	Offset of calibration for gravity influence **Parameter**: -1.0 – 31.0	read/ write	Float 32	1	0x70	0x416	0x01	0x01	0, 1	0x4301	0x4000					x	x	x	
Disable weight display	1 = weight display disabled, 0 = weight display enabled	read/ write	Binary	1	0x71	0x416	0x01	0x02	0, 1	0x4302	N/A								
Report LFT State	Shows the status of the weights and measures switch position (LFT Y/N)	read	Binary	1	0x73	0x416	0x01	0x04	0, 1	0x4304	N/A								
Display - Energy Saving Mode	Time value for the display to turn off "Green MT feature"	read/ write	Float 32	1	0x78	0x416	0x01	0x09	0, 1	0x4309	0x4002	x	x	x		x	x	x	
Factory reset	Factory Reset	write	Short	1	0x79	0x416	0x01	0x0A	0, 1	0x430A	0x4004				x			x	
Readability	Change weight readability **Parameter**: 0 = 1 d 1 = 10 d 2 = 100 d 3 = 1000 d 4 = 2 d 5 = 5 d	read/ write	Float 32	1	0x7A	0x416	0x01	0x0B	0, 1	0x430B	0x500C				x			x	
Change Display Resolution (M110)	value from -6 to 6 which corresponds with different display resolutions	read/ write	Uint 8	1	0x7B	0x416	0x01	0x0C	0, 1	0x430C	0x500E				x			x	
Signal output frequency settings	reads/sets output frequency signal	read/ write	Float 32	1	0x7C	0x416	0x01	0x0D	0, 1	0x430D	N/A								
Reverse weighing mode	sets weighing mode for loss in weight	read/ write	Binary	1	0x7D	0x416	0x01	0x0E	0, 1	0x430E	N/A								
Sets electrical termination of RS422/RS485 lines	sets electrical termination of RS422/485 lines	read/ write	Struct 16	1	0x7E	0x416	0x01	0x0F	0, 1	0x430F	N/A								
Disable Keypad	Disable keyboard of device to avoid accidental key interactions	read/ write	Byte, 1	1	0x77	0x416	1	0x08	0, 1	0x4308	0x4005					x	x	x	
General timeout	Timeout for issued command **Parameter**: 0 – 65535 Seconds	read/ write	Float 32	1	0x46	0x417	0x01	0x01	0, 1	0x4351	0x5000				x				
Observation time for zero	Report Zero Stability time **Parameter**: 0.1 – 4.0 Seconds	read/ write	Float 32	1	0x48	0x417	0x01	0x03	0, 1	0x4353	0x5002				x			x	
Tolerance for zero	Report Zero Stability digit [d] **Parameter**: 0.25 – 1000 digits	read/ write	Float 32	1	0x49	0x417	0x01	0x04	0, 1	0x4354	0x5004				x			x	
Observation time for tare	Report Tare Stability time **Parameter**: 0.1 – 4.0 Seconds	read/ write	Float 32	1	0x4A	0x417	0x01	0x05	0, 1	0x4355	0x5006				x			x	
Tolerance for tare	Report Tare Stability digit [d] **Parameter**: 0.25 – 1000 digits	read/ write	Float 32	1	0x4B	0x417	0x01	0x06	0, 1	0x4356	0x5008				x			x	
Observation time for weighing	Report Weight Stability time **Parameter**: 0.1 – 4.0 Seconds	read/ write	Float 32	1	0x4C	0x417	0x01	0x07	0, 1	0x4357	0x500A				x			x	
Tolerance for weighing	Report Weight Stability digit [d] **Parameter**: 0.25 – 1000 digits	read/ write	Float 32	1	0x4D	0x417	0x01	0x08	0, 1	0x4358	0x5000				x			x	

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Smallest calculated approvable interval value	Smallest calculated approvable interval value	read/ write	Float 32	1	0x5A	0x417	0x01	0x15	0, 1	0x4365	N/A								
d, increment	Smallest available digit	read/ write	Float 32	1	0x5B	0x417	0x01	0x16	0, 1	0x4366	0x500F	x	x	x		x	x		
Nmax (Maximal capacity)	Scale/Sensor capacity	read/ write	Float 32	1	0x5C	0x417	0x01	0x17	0, 1	0x4367	0x5011	x	x	x		x	x	x	
Automatic zero tracking	Enable / Disable auto zero function**Parameter**: 0 = Disabled 1 = Enabled	read/ write	Byte, 1	1	0x63	0x417	0x01	0x1E	0, 1	0x436E	0x5013				x	x	x	x	
Zeroing at start-up	Enable / Disable zeroing mode at startup **Parameter**: 0 = Disabled 1 = Enabled	read/ write	Byte, 1	1	0x64	0x417	0x01	0x1F	0, 1	0x436F	0x5014				x	x	x	x	
Report Raw load cell counts	Filtered load cell value in counts	Read	Unsigned Long	1	0x66	0x417	0x01	0x21	0, 1	0x4371	0x1050					x	x		
Report gross weight from each LC	Reports gross weight value from each individual load cell. Placed into 15 element array of floating point values. The first element is the total gross weight for the scale. Individual weight values follow in subsequent elements of the array. If not all possible load cells are used, a value of 0 will be reported in all unused array elements.	Read	Struct(Float 32*15)	2	0xB0	0x417	0x01	0x24	0, 1	0x4374	0x1010			x			x		
Report net weight from each LC	Reports net weight value from each individual load cell. Placed into 15 element array of floating point values. The first element is the total net weight for the scale. Individual weight values follow in subsequent elements of the array. If not all possible load cells are used, a value of 0 will be reported in all unused array elements.	Read	Struct(Float 32*15)	2	0xB1	0x417	0x01	0x25	0, 1	0x4375	0x1030			x			x		
Report/Write #1 Input Polarity	Determines the polarity of the input at setup.	Read/ write	Byte, 1	2	0x10	0x418	0x01	0x01	0, 1	0x4401	N/A		x	x	x				
Report/Write #1 Input Assignment	Application dependent ex. 0=None, 1=Clear Tare, 2 = Tare, 3 = zero	Read/ write	Byte, 1	2	0x11	0x418	0x01	0x02	0, 1	0x4402	0x9002		x	x	x	x	x	x	
Report/Write #1 trig mode (edge)	Input is triggered on the leading (1) or lagging edge(0)	Read/ write	Byte, 1	2	0x12	0x418	0x01	0x03	0, 1	0x4403	0x9001					x	x	x	
Report/Write #2 Input Polarity	Determines the polarity of the input at setup.	Read/ write	Byte, 1	2	0x13	0x418	0x01	0x04	0, 1	0x4404	N/A		x	x	x				
Report/Write #2 Input Assignment	Application dependent ex. 0=None, 1=Clear Tare, 2 = Tare, 3 = zero	Read/ write	Byte, 1	2	0x14	0x418	0x01	0x05	0, 1	0x4405	0x9004		x	x	x	x	x	x	
Report/Write #2 trig mode (edge)	Input is triggered on the leading (1) or lagging edge(0)	Read/ write	Byte, 1	2	0x15	0x418	0x01	0x06	0, 1	0x4406	0x9003					x	x	x	
Report/Write #3 Input Polarity	Determines the polarity of the input at setup.	Read/ write	Byte, 1	2	0x16	0x418	0x01	0x07	0, 1	0x4407	N/A		x	x	x				
Report/Write #3 Input Assignment	Application dependent ex. 0=None, 1=Clear Tare, 2 = Tare, 3 = zero	Read/ write	Byte, 1	2	0x17	0x418	0x01	0x08	0, 1	0x4408	0x9006		x	x	x	x	x	x	
Report/Write #3 trig mode (edge)	Input is triggered on the leading (1) or lagging edge(0)	Read/ write	Byte, 1	2	0x18	0x418	0x01	0x09	0, 1	0x4409	0x9005					x	x	x	
Report/Write Output Polarity	Read/Write Output polarity	Read/ write	Byte, 1	2	0x1C	0x418	0x01	0x0D	0, 1	0x440D	N/A		x	x	x				
Report/Write #1 Output Assignment	Value based on application: 0, 1, 2, 3, 4, 5,etc.	Read/ write	Byte, 1	2	0x1D	0x418	0x01	0x0E	0, 1	0x440E	0x9020		x	x	x	x	x	x	
Report/Write #2 Output Assignment	Value based on application: 0, 1, 2, 3, 4, 5,etc.	Read/ write	Byte, 1	2	0x24	0x418	0x01	0x15	0, 1	0x4415	0x9021		x	x	x	x	x	x	
Report/Write #3 Output Assignment	Value based on application: 0, 1, 2, 3, 4, 5,etc.	Read/ write	Byte, 1	2	0x2B	0x418	0x01	0x1C	0, 1	0x441C	0x9022		x	x	x	x	x	x	

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Report/Write #4 Output Assignment	Value based on application: 0, 1, 2, 3, 4, 5,etc.	Read/ write	Byte, 1	2	0x32	0x418	0x01	0x23	0, 1	0x4423	0x9023		x	x	x	x	x	x	
Report/Write #5 Output Assignment	Value based on application: 0, 1, 2, 3, 4, 5,etc.	Read/ write	Byte, 1	2	0x39	0x418	0x01	0x2A	0, 1	0x442A	0x9024		x	x	x	x	x	x	
Last dynamic weight value	Last dynamic weight value	Read	Float 32	2	0x90	0x41A	0x01	0x01	0, 1	0x4501	N/A		x						
Calculated number of dynamic weighments	Calculated number of dynamic weighments (counts)	Read	Uint 32	2	0x92	0x41A	0x01	0x03	0, 1	0x4503	N/A		x						
Maximum dynamic weight value	Max dynamic weight	Read	Float 32	2	0x93	0x41A	0x01	0x04	0, 1	0x4504	N/A		x						
Minimum dynamic weight value	Min dynamic weight	Read	Float 32	2	0x94	0x41A	0x01	0x05	0, 1	0x4505	N/A		x						
Mean dynamic weight value	Average dynamic weight	Read	Float 32	2	0x95	0x41A	0x01	0x06	0, 1	0x4506	N/A		x						
Standard deviation of last 20 dynamic weighments	Standard deviation of last 20 dynamic weighments	Read	Float 32	2	0x96	0x41A	0x01	0x07	0, 1	0x4507	N/A		x						
I/O Group 1	Read current state of I/O Group 1	Read		2	0x3F	0x418	0x01	0x30	0, 1	0x4430	N/A								
I/O Group 2	Read current state of I/O Group 2	Read		2	0x40	0x418	0x01	0x31	0, 1	0x4431	N/A								
Input setup using structure (DIN & SICS string)	Input setup using structure (DIN & SICS string)	read/ write	Struct	2	0x41	0x418	0x01	0x32	0, 1	0x4432	N/A	x	x						
Write Output Signal	Manually control output ports of device. High value will force the corresponding output to turn high. e.g. When using little Endian format, 00011101 will cause output 0, 2, 3 and 4 high. Output 1 will be low.	Write	Byte, 1	2	0x42	0x418	0x01	0x33	0, 1	0x4433	N/A		x	x					
Report Target weight	Report Target Weight	read	Float 32	2	0x5F	0x419	0x01	0x10	0, 1	0x4460	N/A	x	x						
Report/Write #4 trig mode (edge)	Input is triggered on the leading (1) or lagging edge (0)	read/ write	Byte, 1	3	0x22	0x418	0x01	0x43	0, 1	0x4603	0x9007					x	x	x	
Report/Write #4 input Assignment	Application dependent ex. 0=None, 1=Clear Tare, 2 = Tare, 3 = zero, 4…	read/ write	Byte, 1	3	0x21	0x418	0x01	0x42	0, 1	0x4602	0x9008					x	x	x	
Report/Write #5 trig mode (edge)	Input is triggered on the leading (1) or lagging edge (0)	read/ write	Byte, 1	3	0x25	0x418	0x01	0x46	0, 1	0x4606	0x9009					x	x	x	
Report/Write #5 input Assignment	Application dependent ex. 0=None, 1=Clear Tare, 2 = Tare, 3 = zero, 4…	read/ write	Byte, 1	3	0x24	0x418	0x01	0x45	0, 1	0x4605	0x900A					x	x	x	
Report/write #6 output assignment	Value based on application: 0, 1, 2, 3, 4, 5, etc.	read/ write	Byte, 1	3	0x27	0x418	0x01	0x48	0, 1	0x4608	0x9025					x	x	x	
Report/write #7 output assignment	Value based on application: 0, 1, 2, 3, 4, 5, etc.	read/ write	Byte, 1	3	0x2E	0x418	0x01	0x4F	0, 1	0x460F	0x9026					x	x	x	
Report/write #8 output assignment	Value based on application: 0, 1, 2, 3, 4, 5, etc.	read/ write	Byte, 1	3	0x35	0x418	0x01	0x56	0, 1	0x4616	0x9027					x	x	x	
Set Transaction Number	Set the transaction number of one Alibi record that will be read	read	Long	2	0x73	0x412	0x01	0x04	0, 1	0x4104	0xC000					x	x	x	
Read One Alibi Record	Read one record from the Alibi log	read/ write	Struct (56 Byte)	2	0x74	0x412	0x01	0x05	0, 1	0x4105	0xC002					x	x	x	
Report Smart5 Alarm Status	Word 0 = Alarm code of latest alarm, Words 1 and 2 reserved	read/ write	Short*3	1	0xAB	0x413	0x01	0x0C	0, 1	0x415C	0xA017					x	x	x	
Read float32	Test floating point variable – always reads 123.45 – no write permitted	read	Float 32	1	0x0A	0x30F	0x01	0x01	0, 1	0x5000	N/A	x	x	x	x				
Write float32	Test floating point variable – no usage in device except for test	write	Float 32	1	0x0B	0x30F	0x01	0x02	0, 0	0x5001	N/A	x	x	x	x				
Read uint16	Test integer variable – always reads 9876	read	Uint 8	1	0x0C	0x30F	0x01	0x03	0, 1	0x5002	N/A	x	x	x	x				

Command	Description	Read/Write	Data Type	PROFIBUS slot	PROFIBUS Index	EIP Class Code	EIP Instance Values	EIP Attribute #	PROFINET slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	ACT350	ACT350 DIO	ACT350 POWERCELL	ACT350 Precision	IND360 Analog	IND360 POWERCELL	IND360 Precision	IND500x
Write uint16	Test integer variable – no usage in device except for test	write	Uint 8	1	0x0D	0x30F	0x01	0x04	0, 1	0x5003	N/A	x	x	x	x				
Read string	Test string variable – always read "ABCD"	read	String 160	1	0x0E	0x30F	0x01	0x05	0, 1	0x5004	N/A	x	x	x	x				
Write string	Test string variable – always read "ABCD"	write	String 160	1	0x0F	0x30F	0x01	0x06	0, 1	0x5005	N/A	x	x	x	x				
Read uint32	Test long integer variable – always reads 98765	read	Long	1	0x10	0x30F	0x01	0x07	0, 1	0x5006	N/A	x	x	x	x				
Write uint32	Test long integer variable – no usage in device except for test	write	Long	1	0x11	0x30F	0x01	0x08	0, 1	0x5007	N/A	x	x	x	x				
Read uint8	Test Byte variable – always reads 56h	read	Byte, 1	1	0x12	0x30F	0x01	0x09	0, 1	0x5008	N/A	x	x	x	x				
Write uint8	Test Byte variable – no usage in device except for test	write	Byte, 1	1	0x13	0x30F	0x01	0x10	0, 1	0x5009	N/A	x	x	x	x				

5.1. Acyclic Commands – IND360 Dynamic Application

The acyclic commands listed below are for use with the IND360 Dynamic application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Dynamic application. Please refer to the section specific to the application installed on your device if using something other than the IND360 Dynamic application. More details about the IND360 Dynamic Application can be found in the IND360 Dynamic Application Manual.

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Photoeye Mode **Parameter**: 0 = Dual photoeye 1 = Single Photoeye	RW	Float 32	3	0xA0	0x41B	0x01	0x01	0, 1	0x4701	0x10000	x		
Installation Position **Parameter**: 0 = Front 1 = Rear	RW	Float 32	3	0xA1	0x41B	0x01	0x02	0, 1	0x4702	0x10002	x		
Multiple Objects **Parameter**: 0 = False 1 = True	RW	Float 32	3	0xA2	0x41B	0x01	0x03	0, 1	0x4703	0x10004	x		
Burr Time **Parameter**: 1-1000 ms	RW	Float 32	3	0xA3	0x41B	0x01	0x04	0, 1	0x4704	0x10006	x		
Interval Time **Parameter**: 1-1000 ms	RW	Float 32	3	0xA4	0x41B	0x01	0x05	0, 1	0x4705	0x10008	x		
Object Length **Parameter**: < Belt Length	RW	Float 32	3	0xA5	0x41B	0x01	0x06	0, 1	0x4706	0x1000A	x		
Belt Speed **Parameter**: 1-10000 rpm	RW	Float 32	3	0xA6	0x41B	0x01	0x07	0, 1	0x4707	0x1000C	x		
Belt Length **Parameter**: 1-5000 cm	RW	Float 32	3	0xA7	0x41B	0x01	0x08	0, 1	0x4708	0x1000E	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Photoeye Polarity **Parameter**: 0 = High Level 1 = Low Level	RW	Float 32	3	0xA8	0x41B	0x01	0x09	0, 1	0x4709	0x10010	x		
Min. Weighing Time **Parameter**: 1-5000 ms	RW	Float 32	3	0xA9	0x41B	0x01	0x0A	0, 1	0x470A	0x10012	x		
Max. Weighing Time **Parameter**: Min. Weighing Time – 10000 ms	RW	Float 32	3	0xAA	0x41B	0x01	0x0B	0, 1	0x470B	0x10014	x		
Filter Mode **Parameter**: 0 = Automatic 1 = Manual	RW	Float 32	3	0xAB	0x41B	0x01	0x0C	0, 1	0x470C	0x10016	x		
Filter **Parameter** **Parameter**: 1-1000 ms	RW	Float 32	3	0xAC	0x41B	0x01	0x0D	0, 1	0x470D	0x10018	x		
Compensation Management **Parameter**: 0 = Disable 1 = Enable	RW	Float 32	3	0xAD	0x41B	0x01	0x0E	0, 1	0x470E	0x1001A	x		
Weight 1 – Dynamic Application	RW	Float 32	3	0xAE	0x41B	0x01	0x0F	0, 1	0x470F	0x1001C	x		
Weight 2 – Dynamic Application	RW	Float 32	3	0xAF	0x41B	0x01	0x10	0, 1	0x4710	0x1001E	x		
Weight 3 – Dynamic Application	RW	Float 32	3	0xB0	0x41B	0x01	0x11	0, 1	0x4711	0x10020	x		
Weight 4 – Dynamic Application	RW	Float 32	3	0xB1	0x41B	0x01	0x12	0, 1	0x4712	0x10022	x		
Weight 5 – Dynamic Application	RW	Float 32	3	0xB2	0x41B	0x01	0x13	0, 1	0x4713	0x10024	x		
Factor 1 – Dynamic Application **Parameter**: 0.1-9	RW	Float 32	3	0xB3	0x41B	0x01	0x14	0, 1	0x4714	0x10026	x		
Factor 2 – Dynamic Application **Parameter**: 0.1-9	RW	Float 32	3	0xB4	0x41B	0x01	0x15	0, 1	0x4715	0x10028	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Factor 3 – Dynamic Application **Parameter**: 0.1-9	RW	Float 32	3	0xB5	0x41B	0x01	0x16	0, 1	0x4716	0x1002A	x		
Factor 4 – Dynamic Application **Parameter**: 0.1-9	RW	Float 32	3	0xB6	0x41B	0x01	0x17	0, 1	0x4717	0x1002C	x		
Factor 5 – Dynamic Application **Parameter**: 0.1-9	RW	Float 32	3	0xB7	0x41B	0x01	0x18	0, 1	0x4718	0x1002E	x		
Completed Time Signal **Parameter**: 1-5000 ms	RW	Float 32	3	0xB8	0x41B	0x01	0x19	0, 1	0x4719	0x10030	x		
Match Weighing Time **Parameter**: Weighing Time – 5000 ms	RW	Float 32	3	0xB9	0x41B	0x01	0x1A	0, 1	0x471A	0x10032	x		
Object Counts **Parameter**: 0-5	R	Float 32	3	0xBA	0x41B	0x01	0x1B	0, 1	0x471B	0x10034	x		
Total Counts **Parameter**: 0-99,999,999	R	Float 32	3	0xBB	0x41B	0x01	0x1C	0, 1	0x471C	0x10036	x		
Dynamic Weight	R	Float 32	3	0xBC	0x41B	0x01	0x1D	0, 1	0x471D	0x10038	x		
Real Weighing Time	R	Float 32	3	0xBD	0x41B	0x01	0x1E	0, 1	0x471E	0x1003A	x		
Valid Weight Counts **Parameter**: 0-99,999,999	W	Float 32	3	0xC3	0x41B	0x01	0x24	0, 1	0x4724	0x10046	x		
Invalid Weight Counts **Parameter**: 0-99,999,999	W	Float 32	3	0xC4	0x41B	0x01	0x25	0, 1	0x4725	0x10048	x		
Control Command – Dynamic Application **Parameter**: 0 = Stop 1 = Run	R	Float 32	3	0xC5	0x41B	0x01	0x26	0, 1	0x4726	0x1004A	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Clear Statistics **Parameter**: 1 = clear	R	Float 32	3	0xC6	0x41B	0x01	0x27	0, 1	0x4727	0x1004C	x		
Zero State **Parameter**: 0-100 d	RW	Float 32	3	0xC7	0x41B	0x01	0x28	0, 1	0x4728	0x1004E	x		
Empty State **Parameter**: 0-1000d	RW	Float 32	3	0xC8	0x41B	0x01	0x29	0, 1	0x4729	0x10050	x		
Over Weight **Parameter**: 0-capacity	RW	Float 32	3	0xC9	0x41B	0x01	0x2A	0, 1	0x472A	0x10052	x		
Under Weight **Parameter**: 0-capacity	RW	Float 32	3	0xCA	0x41B	0x01	0x2B	0, 1	0x472B	0x10054	x		
Photoeye Timeout **Parameter**: 0-5000 ms	RW	Float 32	3	0xCB	0x41B	0x01	0x2C	0, 1	0x472C	0x10056	x		
Dynamic Zero Enable **Parameter**: 0 = Disable 1 = Enable	RW	Float 32	3	0xCD	0x41B	0x02	0x2E	0, 2	0x472E	0x1005A	x		
Dynamic Zero Threshold **Parameter**: 0-capacity	RW	Float 32	3	0xCE	0x41B	0x03	0x2F	0, 3	0x472F	0x1005C	x		
Dynamic Zero Delay **Parameter**: 1-999 ms	RW	Float 32	3	0xCF	0x41B	0x04	0x30	0, 4	0x4730	0x1005E	x		
Dynamic Zero Interval **Parameter**: 1-999 ms	RW	Float 32	3	0xD0	0x41B	0x05	0x31	0, 5	0x4731	0x10060	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Input1 Assignment **Parameter**: 0 = None 7 = Run/Stop 8 = Front Photo Eye 9 = Rear Photo Eye 10 = Clear Statistics	RW	Byte, 1	2	0x11	0x418	0x01	0x02	0, 1	0x4402	0x9002	x		
Input2 Assignment **Parameter**: 0 = None 7 = Run/Stop 8 = Front Photo Eye 9 = Rear Photo Eye 10 = Clear Statistics	RW	Byte, 1	2	0x14	0x418	0x01	0x05	0, 1	0x4405	0x9004	x		
Input3 Assignment **Parameter**: 0 = None 7 = Run/Stop 8 = Front Photo Eye 9 = Rear Photo Eye 10 = Clear Statistics	RW	Byte, 1	2	0x17	0x418	0x01	0x08	0, 1	0x4408	0x9006	x		
Input4 Assignment **Parameter**: 0 = None 7 = Run/Stop 8 = Front Photo Eye 9 = Rear Photo Eye 10 = Clear Statistics	RW	Byte, 1	3	0x21	0x418	0x01	0x42	0, 1	0x4602	0x9008	x		
Input5 Assignment **Parameter**: 0 = None 7 = Run/Stop 8 = Front Photo Eye 9 = Rear Photo Eye 10 = Clear Statistics	RW	Byte, 1	3	0x24	0x418	0x01	0x45	0, 1	0x4605	0x900A	x		
Output1 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	2	0x1D	0x418	0x01	0x0E	0, 1	0x440E	0x9020	x		
Output2 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	2	0x24	0x418	0x01	0x15	0, 1	0x4415	0x9021	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output3 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	2	0x2B	0x418	0x01	0x1C	0, 1	0x441C	0x9022	x		
Output4 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	2	0x32	0x418	0x01	0x23	0, 1	0x4423	0x9023	x		
Output5 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	2	0x39	0x418	0x01	0x2A	0, 1	0x442A	0x9024	x		
Output6 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	3	0x27	0x418	0x01	0x48	0, 1	0x4608	0x9025	x		
Output7 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	3	0x2E	0x418	0x01	0x4F	0, 1	0x460F	0x9026	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output8 Assignment **Parameter**: 0 = None 15 = Run/Stop 16 = Ready 17 = Complete 18 = Zero State 19 = Empty State 20 = Alarm 21 = Timed Zero	RW	Byte, 1	3	0x35	0x418	0x01	0x56	0, 1	0x4616	0x9027	x		

5.2. Acyclic Commands – IND360 Tank Vessel Application

The acyclic commands listed below are for use with the IND360 Tank Vessel application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Tank Vessel application. Please refer to the section specific to the application installed on your device if using something other than the IND360 Tank Vessel application. More details about the IND360 Tank Vessel Application can be found in the IND360 Tank Vessel Application Manual.

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +subslot	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Target Source **Parameter**: 0 – Tank Capacity	RW	Float 32	3	0xA0	0x41B	0x01	0x01	0, 1	0x4701	0x10000	x	x	x
Tank Capacity **Parameter**: 0 – Scale Capacity	RW	Float 32	3	0xA1	0x41B	0x01	0x02	0, 1	0x4702	0x10002	x	x	x
Upper Limit **Parameter**: 0 – Tank Capacity	RW	Float 32	3	0xA2	0x41B	0x01	0x03	0, 1	0x4703	0x10004	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +subslot	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Lower Limit **Parameter**: 0 – Upper Limit	RW	Float 32	3	0xA3	0x41B	0x01	0x04	0, 1	0x4704	0x10006	x	x	x
Lower Limit Alarm **Parameter**: 0 – Lower Limit	RW	Float 32	3	0xA4	0x41B	0x01	0x05	0, 1	0x4705	0x10008	x	x	x
Over Limit Alarm **Parameter**: 0 – Tank Capacity	RW	Float 32	3	0xA5	0x41B	0x01	0x06	0, 1	0x4706	0x1000A	x	x	x
Current Weight	R	Float 32	3	0xA6	0x41B	0x01	0x07	0, 1	0x4707	0x1000C	x	x	x
Percentage of tank filled based on capacity	R	Float 32	3	0xA7	0x41B	0x01	0x08	0, 1	0x4708	0x1000E	x	x	x
Clear Statistics **Parameter**: 0 = Disable 1 = Enable (Will automatically disable once complete)	W	Float 32	3	0xA8	0x41B	0x01	0x09	0, 1	0x4709	0x10010	x	x	x
Lower Limit Counts **Parameter**: 0 – 99,999,999	R	Float 32	3	0xA9	0x41B	0x01	0x0A	0, 1	0x470A	0x10012	x	x	x
Upper Limit Counts **Parameter**: 0 – 99,999,999	R	Float 32	3	0xAA	0x41B	0x01	0x0B	0, 1	0x470B	0x10014	x	x	x
Refill Counts **Parameter**: 0 – 99,999,999	R	Float 32	3	0xAB	0x41B	0x01	0x0C	0, 1	0x470C	0x10016	x	x	x
Control Command **Parameter**: 0 = Stop 1 = Run	W	Float 32	3	0xAC	0x41B	0x01	0x0D	0, 1	0x470D	0x10018	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +subslot	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Input1 Assignment **Parameter**: 0 = None 1 = Tare 2 = Zero 3 = Print 4 = Clear Tare 6 = Silence Alarm 7 = Run/Stop 8 = Clear Statistics	RW	Byte, 1	2	0x11	0x418	0x01	0x02	0, 1	0x4402	0x9002	x	x	x
Input2 Assignment **Parameter**: 0 = None 1 = Tare 2 = Zero 3 = Print 4 = Clear Tare 6 = Silence Alarm 7 = Run/Stop 8 = Clear Statistics	RW	Byte, 1	2	0x14	0x418	0x01	0x05	0, 1	0x4405	0x9004	x	x	x
Input3 Assignment **Parameter**: 0 = None 1 = Tare 2 = Zero 3 = Print 4 = Clear Tare 6 = Silence Alarm 7 = Run/Stop 8 = Clear Statistics	RW	Byte, 1	2	0x17	0x418	0x01	0x08	0, 1	0x4408	0x9006	x	x	x
Input4 Assignment **Parameter**: 0 = None 1 = Tare 2 = Zero 3 = Print 4 = Clear Tare 6 = Silence Alarm 7 = Run/Stop 8 = Clear Statistics	RW	Byte, 1	3	0x21	0x418	0x01	0x42	0, 1	0x4602	0x9008	x	x	x
Input5 Assignment **Parameter**: 0 = None 1 = Tare 2 = Zero 3 = Print 4 = Clear Tare 6 = Silence Alarm 7 = Run/Stop 8 = Clear Statistics	RW	Byte, 1	3	0x24	0x418	0x01	0x45	0, 1	0x4605	0x900A	x	x	x
Output1 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	2	0x1D	0x418	0x01	0x0E	0, 1	0x440E	0x9020	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +subslot	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output2 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	2	0x24	0x418	0x01	0x15	0, 1	0x4415	0x9021	x	x	x
Output3 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	2	0x2B	0x418	0x01	0x1C	0, 1	0x441C	0x9022	x	x	x
Output4 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	2	0x32	0x418	0x01	0x23	0, 1	0x4423	0x9023	x	x	x
Output5 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	2	0x39	0x418	0x01	0x2A	0, 1	0x442A	0x9024	x	x	x
Output6 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	3	0x27	0x418	0x01	0x48	0, 1	0x4608	0x9025	x	x	x
Output7 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	3	0x2E	0x418	0x01	0x4F	0, 1	0x460F	0x9026	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +subslot	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output8 Assignment **Parameter**: 0 = None 1 = Center of Zero 2 = Over Capacity 3 = Under Zero 4 = Motion 5 = Net 15 = Upper Limit 16 = Lower Limit 17 = Refill 18 = Alarm	RW	Byte, 1	3	0x35	0x418	0x01	0x56	0, 1	0x4616	0x9027	x	x	x

5.3. Acyclic Commands – IND360 Fill Dose Application

The acyclic commands listed below are for use with the IND360 Fill Dose application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Fill Dose application. Please refer to the section specific to the application installed on your device if using something other than the IND360 Fill Dose application. More details about the IND360 Fill Dose Application can be found in the IND360 Fill Dose Application Manual.

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Work Mode **Parameter**: 0 = Fill Dump 1 = Refill Dose	RW	Float 32	3	0xA0	0x41B	0x01	0x01	0, 1	0x4701	0x10000	x	x	x
Feed Speeds **Parameter**: 0 = One Speed 1 = Two Speed 2 = Three Speed	RW	Float 32	3	0xA1	0x41B	0x01	0x02	0, 1	0x4702	0x10002	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output Type **Parameter**: 0 = Concurrent 1 = Independent	RW	Float 32	3	0xA2	0x41B	0x01	0x03	0, 1	0x4703	0x10004	x	x	x
Complete Mode **Parameter**: 0 = Weight Mode 1 = Time Mode	RW	Float 32	3	0xA3	0x41B	0x01	0x04	0, 1	0x4704	0x10006	x	x	x
Clear Statistics **Parameter**: 0 = Disable 1 = Enable (Will automatically disable once complete)	W	Float 32	3	0xA5	0x41B	0x01	0x06	0, 1	0x4706	0x1000A	x	x	x
Target Source **Parameter**: 0 = Gross 1 = Net	RW	Float 32	3	0xA6	0x41B	0x01	0x07	0, 1	0x4707	0x1000C	x	x	x
Target **Parameter**: 0 - Capacity	RW	Float 32	3	0xA7	0x41B	0x01	0x08	0, 1	0x4708	0x1000E	x	x	x
Spill **Parameter**: 0 - Capacity	RW	Float 32	3	0xA8	0x41B	0x01	0x09	0, 1	0x4709	0x10010	x	x	x
Fine Feed **Parameter**: 0 - Capacity	RW	Float 32	3	0xA9	0x41B	0x01	0x0A	0, 1	0x470A	0x10012	x	x	x
Fast Feed **Parameter**: 0 - Capacity	RW	Float 32	3	0xAA	0x41B	0x01	0x0B	0, 1	0x470B	0x10014	x	x	x
Heel Weight **Parameter**: 0 - Capacity	RW	Float 32	3	0xAB	0x41B	0x01	0x0C	0, 1	0x470C	0x10016	x	x	x
+ Tolerance **Parameter**: 0 - Capacity	RW	Float 32	3	0xAC	0x41B	0x01	0x0D	0, 1	0x470D	0x10018	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
- Tolerance **Parameter**: 0 - Capacity	RW	Float 32	3	0xAD	0x41B	0x01	0x0E	0, 1	0x470E	0x1001A	x	x	x
Upper Limit **Parameter**: 0 - Capacity	RW	Float 32	3	0xAE	0x41B	0x01	0x0F	0, 1	0x470F	0x1001C	x	x	x
Lower Limit **Parameter**: 0 - Capacity	RW	Float 32	3	0xAF	0x41B	0x01	0x10	0, 1	0x4710	0x1001E	x	x	x
Container Tare Max **Parameter**: 0 - Capacity	RW	Float 32	3	0xB0	0x41B	0x01	0x11	0, 1	0x4711	0x10020	x	x	x
Container Tare Min **Parameter**: 0 - Capacity	RW	Float 32	3	0xB1	0x41B	0x01	0x12	0, 1	0x4712	0x10022	x	x	x
Inhibit Time **Parameter**: 0 – 9.99 seconds	RW	Float 32	3	0xB2	0x41B	0x01	0x13	0, 1	0x4713	0x10024	x	x	x
Stable Time **Parameter**: 0 – 9.99 seconds	RW	Float 32	3	0xB3	0x41B	0x01	0x14	0, 1	0x4714	0x10026	x	x	x
Complete Time **Parameter**: 0 – 9.99 seconds	RW	Float 32	3	0xB4	0x41B	0x01	0x15	0, 1	0x4715	0x10028	x	x	x
Control Timeout **Parameter**: 0 – 99.99 seconds	RW	Float 32	3	0xB5	0x41B	0x01	0x16	0, 1	0x4716	0x1002A	x	x	x
Process Timeout **Parameter**: 0 – 99.99 seconds	RW	Float 32	3	0xB6	0x41B	0x01	0x17	0, 1	0x4717	0x1002C	x	x	x
Self Learning Mode **Parameter**: 0 = None 1 = Spill Learning 2 = All Learning	RW	Float 32	3	0xB7	0x41B	0x01	0x18	0, 1	0x4718	0x1002E	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Spill Adjust Period **Parameter**: 1 - 9	RW	Float 32	3	0xB8	0x41B	0x01	0x19	0, 1	0x4719	0x10030	x	x	x
Spill Adjust Factor **Parameter**: 0.1 – 0.9	RW	Float 32	3	0xB9	0x41B	0x01	0x1A	0, 1	0x471A	0x10032	x	x	x
Spill Adjust Range **Parameter**: 0 - Capacity	RW	Float 32	3	0xBA	0x41B	0x01	0x1B	0, 1	0x471B	0x10034	x	x	x
Cutoff Optimization Mode **Parameter**: 0 = Disabled 1 = Automatic 2 = Manual	RW	Float 32	3	0xBB	0x41B	0x01	0x1C	0, 1	0x471C	0x10036	x	x	x
Control Reliability **Parameter**: 3 = 93.32% 4 = 99.379% 5 = 99.977% 6 = 99.9997%	RW	Float 32	3	0xBC	0x41B	0x01	0x1D	0, 1	0x471D	0x10038	x	x	x
Learning Samples **Parameter**: 6, 9, 12, 15, 9999	RW	Float 32	3	0xBD	0x41B	0x01	0x1E	0, 1	0x471E	0x1003A	x	x	x
Adjust Factor **Parameter**: 0.1 – 0.9	RW	Float 32	3	0xBE	0x41B	0x01	0x1F	0, 1	0x471F	0x1003C	x	x	x
Filling Dosing Weight	R	Float 32	3	0xBF	0x41B	0x01	0x20	0, 1	0x4720	0x1003E	x	x	x
Min Cycle Time	R	Float 32	3	0xC0	0x41B	0x01	0x21	0, 1	0x4721	0x10040	x	x	x
Max Cycle Time	R	Float 32	3	0xC1	0x41B	0x01	0x22	0, 1	0x4722	0x10042	x	x	x
Total Cycle Weight	R	Float 32	3	0xC2	0x41B	0x01	0x23	0, 1	0x4723	0x10044	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Total Buckets	R	Float 32	3	0xC3	0x41B	0x01	0x24	0, 1	0x4724	0x10046	x	x	x
Valid Buckets	R	Float 32	3	0xC4	0x41B	0x01	0x25	0, 1	0x4725	0x10048	x	x	x
Control Command **Parameter**: 0 = Stop 1 = Run 2 = Pause	W	Float 32	3	0xC5	0x41B	0x01	0x26	0, 1	0x4726	0x1004A	x	x	x
Dump Timeout **Parameter**: 0 – 99.99 S	RW	Float 32	3	0xC7	0x41B	0x01	0x28	0, 1	0x4728	0x1004E	x	x	x
Initial Feed Timeout **Parameter**: 0 – 99.99 S	RW	Float 32	3	0xC8	0x41B	0x01	0x29	0, 1	0x4729	0x10050	x	x	x
Jog Mode Selection	RW	Float 32	3	0xC9	0x41B	0x01	0x2A	0, 1	0x472A	0x10052	x	x	x
Jog Pulse Duration Time	RW	Float 32	3	0xCA	0x41B	0x01	0x2B	0, 1	0x472B	0x10054	x	x	x
Jog Pause Duration Time	RW	Float 32	3	0xCB	0x41B	0x01	0x2C	0, 1	0x472C	0x10056	x	x	x
Jog Max Cycles	RW	Float 32	3	0xCC	0x41B	0x01	0x2D	0, 1	0x472D	0x10058	x	x	x
Input1 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Pause 9 = Clear Statistics	RW	Byte, 1	2	0x11	0x418	0x01	0x02	0, 1	0x4402	0x9002	x	x	x
Input2 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Pause 9 = Clear Statistics	RW	Byte, 1	2	0x14	0x418	0x01	0x05	0, 1	0x4405	0x9004	x	x	x
Input3 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Pause 9 = Clear Statistics	RW	Byte, 1	2	0x17	0x418	0x01	0x08	0, 1	0x4408	0x9006	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Input4 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Pause 9 = Clear Statistics	RW	Byte, 1	3	0x21	0x418	0x01	0x42	0, 1	0x4602	0x9008	x	x	x
Input5 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Pause 9 = Clear Statistics	RW	Byte, 1	3	0x24	0x418	0x01	0x45	0, 1	0x4605	0x900A	x	x	x
Output1 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	2	0x1D	0x418	0x01	0x0E	0, 1	0x440E	0x9020	x	x	x
Output2 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	2	0x24	0x418	0x01	0x15	0, 1	0x4415	0x9021	x	x	x
Output3 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	2	0x2B	0x418	0x01	0x1C	0, 1	0x441C	0x9022	x	x	x
Output4 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	2	0x32	0x418	0x01	0x23	0, 1	0x4423	0x9023	x	x	x
Output5 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	2	0x39	0x418	0x01	0x2A	0, 1	0x442A	0x9024	x	x	x

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output6 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	3	0x27	0x418	0x01	0x48	0, 1	0x4608	0x9025	x	x	x
Output7 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	3	0x2E	0x418	0x01	0x4F	0, 1	0x460F	0x9026	x	x	x
Output8 Assignment **Parameter**: 0 = None 15 = Fast Feed 16 = Fine Feed 17 = Spill 18 = Complete 19 = Dump 20 = Refill 21 = Run	RW	Byte, 1	3	0x35	0x418	0x01	0x56	0, 1	0x4616	0x9027	x	x	x

5.4. Acyclic Commands – IND360 Rate Control Application

The acyclic commands listed below are for use with the IND360 Rate Control application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than the IND360 Rate Control application. Please refer to the section specific to the application installed on your device if using something other than the IND360 Rate Control application. More details about the IND360 Rate Control Application can be found in the IND360 Rate Control Application Manual.

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Flow Target **Parameter**: 0.1 – Rated Flow	RW	Float 32	3	0xA0	0x41B	0x01	0x01	0, 1	0x4701	0x10000	x		
Flow Control Mode **Parameter**: 0 = Flow Control Mode 1 = Fixed Frequency Control Mode 2 = Rapid Cal 3 = Step Cal	RW	Float 32	3	0xA1	0x41B	0x01	0x02	0, 1	0x4702	0x10002	x		
Refill Control Mode **Parameter**: 0 = Fixed Frequency 1 = Follow Mode 2 = Level Switch Mode	RW	Float 32	3	0xA2	0x41B	0x01	0x03	0, 1	0x4703	0x10004	x		
Upper Limit **Parameter**: 0 - Capacity	RW	Float 32	3	0xA3	0x41B	0x01	0x04	0, 1	0x4704	0x10006	x		
Lower Limit **Parameter**: 0 - Capacity	RW	Float 32	3	0xA4	0x41B	0x01	0x05	0, 1	0x4705	0x10008	x		
Control Rate Upper Limit **Parameter**: 0 - 1	RW	Float 32	3	0xA5	0x41B	0x01	0x06	0, 1	0x4706	0x1000A	x		
Control Rate Lower Limit **Parameter**: 0 - 1	RW	Float 32	3	0xA6	0x41B	0x01	0x07	0, 1	0x4707	0x1000C	x		
Rated Flow **Parameter**: 0.1 – 99,999	RW	Float 32	3	0xA7	0x41B	0x01	0x08	0, 1	0x4708	0x1000E	x		
Control Filter **Parameter**: 0 - 9	RW	Float 32	3	0xA8	0x41B	0x01	0x09	0, 1	0x4709	0x10010	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Flow Filter **Parameter**: 0 - 9	RW	Float 32	3	0xA9	0x41B	0x01	0x0A	0, 1	0x470A	0x10012	x		
Control Tolerance **Parameter**: 0 - 1	RW	Float 32	3	0xAA	0x41B	0x01	0x0B	0, 1	0x470B	0x10014	x		
Flow Tolerance **Parameter**: 0 - 1	RW	Float 32	3	0xAB	0x41B	0x01	0x0C	0, 1	0x470C	0x10016	x		
Test Time **Parameter**: 0 – 9,999 Seconds	RW	Float 32	3	0xAC	0x41B	0x01	0x0D	0, 1	0x470D	0x10018	x		
Flow Stability Range **Parameter**: 0 - 20	RW	Float 32	3	0xAD	0x41B	0x01	0x0E	0, 1	0x470E	0x1001A	x		
Flow Stability Time **Parameter**: 0 - 20	RW	Float 32	3	0xAE	0x41B	0x01	0x0F	0, 1	0x470F	0x1001C	x		
Start Delay Time **Parameter**: 0 – 9,999	RW	Float 32	3	0xAF	0x41B	0x01	0x10	0, 1	0x4710	0x1001E	x		
Refill Delay Time **Parameter**: 0 – 9,999	RW	Float 32	3	0xB0	0x41B	0x01	0x11	0, 1	0x4711	0x10020	x		
PID Mode **Parameter**: 0 = Auto PID 1 = Manual PID	RW	Float 32	3	0xB1	0x41B	0x01	0x12	0, 1	0x4712	0x10022	x		
Proportional Term (P) **Parameter**: 0 – 255	RW	Float 32	3	0xB2	0x41B	0x01	0x13	0, 1	0x4713	0x10024	x		
Intergral Term (I) **Parameter**: 0 – 255	RW	Float 32	3	0xB3	0x41B	0x01	0x14	0, 1	0x4714	0x10026	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Derivative Term (D) **Parameter**: 0 – 255	RW	Float 32	3	0xB4	0x41B	0x01	0x15	0, 1	0x4715	0x10028	x		
Control Rate Factor **Parameter**: 0 – 2	RW	Float 32	3	0xB5	0x41B	0x01	0x16	0, 1	0x4716	0x1002A	x		
Refill Control Rate Factor **Parameter**: 0 – 2	RW	Float 32	3	0xB6	0x41B	0x01	0x17	0, 1	0x4717	0x1002C	x		
Refill Control Rate Target **Parameter**: 0 - 1	RW	Float 32	3	0xB7	0x41B	0x01	0x18	0, 1	0x4718	0x1002E	x		
Control Rate Target **Parameter**: 0 - 1	RW	Float 32	3	0xB8	0x41B	0x01	0x19	0, 1	0x4719	0x10030	x		
Rapid Cal. Time **Parameter**: 10 - 60	RW	Float 32	3	0xB9	0x41B	0x01	0x1A	0, 1	0x471A	0x10032	x		
20% Flow Rate **Parameter**: 0 – 99,999	R	Float 32	3	0xBA	0x41B	0x01	0x1B	0, 1	0x471B	0x10034	x		
40% Flow Rate **Parameter**: 0 – 99,999	R	Float 32	3	0xBB	0x41B	0x01	0x1C	0, 1	0x471C	0x10036			
60% Flow Rate **Parameter**: 0 – 99,999	R	Float 32	3	0xBC	0x41B	0x01	0x1D	0, 1	0x471D	0x10038	x		
80% Flow Rate **Parameter**: 0 – 99,999	R	Float 32	3	0xBD	0x41B	0x01	0x1E	0, 1	0x471E	0x1003A	x		
100% Flow Rate **Parameter**: 0 – 99,999	R	Float 32	3	0xBE	0x41B	0x01	0x1F	0, 1	0x471F	0x1003C	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Control Rate	R	Float 32	3	0xBF	0x41B	0x01	0x20	0, 1	0x4720	0x1003E	x		
Refill Time **Parameter**: 0 – 9,999 seconds	RW	Float 32	3	0xC0	0x41B	0x01	0x21	0, 1	0x4721	0x10040	x		
Flow	R	Float 32	3	0xC1	0x41B	0x01	0x22	0, 1	0x4722	0x10042	x		
Cumulant	R	Float 32	3	0xC3	0x41B	0x01	0x24	0, 1	0x4724	0x10046	x		
Work Cumulant	R	Float 32	3	0xC4	0x41B	0x01	0x25	0, 1	0x4725	0x10048	x		
Test Cumulant	R	Float 32	3	0xC5	0x41B	0x01	0x26	0, 1	0x4726	0x1004A	x		
Control Command **Parameter**: 0 = Stop 1 = Run	W	Float 32	3	0xC6	0x41B	0x01	0x27	0, 1	0x4727	0x1004C	x		
Clear Totalization **Parameter**: 1 = Clear	W	Float 32	3	0xC7	0x41B	0x01	0x28	0, 1	0x4728	0x1004E	x		
Input1 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Refill 9 = Clear Statistics	RW	Byte, 1	2	0x11	0x418	0x01	0x02	0, 1	0x4402	0x9002	x		
Input2 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Refill 9 = Clear Statistics	RW	Byte, 1	2	0x14	0x418	0x01	0x05	0, 1	0x4405	0x9004	x		
Input3 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Refill 9 = Clear Statistics	RW	Byte, 1	2	0x17	0x418	0x01	0x08	0, 1	0x4408	0x9006	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Input4 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Refill 9 = Clear Statistics	RW	Byte, 1	3	0x21	0x418	0x01	0x42	0, 1	0x4602	0x9008	x		
Input5 Assignment **Parameter**: 0 = None 6 = Silence Alarm 7 = Run/Stop 8 = Refill 9 = Clear Statistics	RW	Byte, 1	3	0x24	0x418	0x01	0x45	0, 1	0x4605	0x900A	x		
Output1 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	2	0x1D	0x418	0x01	0x0E	0, 1	0x440E	0x9020	x		
Output2 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	2	0x24	0x418	0x01	0x15	0, 1	0x4415	0x9021	x		
Output3 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	2	0x2B	0x418	0x01	0x1C	0, 1	0x441C	0x9022	x		
Output4 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	2	0x32	0x418	0x01	0x23	0, 1	0x4423	0x9023	x		
Output5 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	2	0x39	0x418	0x01	0x2A	0, 1	0x442A	0x9024	x		

Command/Description	Read/Write	Data Type	PROFIBUS Slot	PROFIBUS Index	EIP Class Code	EIP Instance Value	EIP Attribute #	PROFINET Slot +	PROFINET/EtherCAT Index	CC Link IE Field Basic Address	IND360 Analog	IND360 POWERCELL	IND360 Precision
Output6 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	3	0x27	0x418	0x01	0x48	0, 1	0x4608	0x9025	x		
Output7 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	3	0x2E	0x418	0x01	0x4F	0, 1	0x460F	0x9026	x		
Output8 Assignment **Parameter**: 0 = None 14 = Alarm 15 = Run 16 = Refill	RW	Byte, 1	3	0x35	0x418	0x01	0x56	0, 1	0x4616	0x9027	x		

5.5. Acyclic Commands – IND500x Manual Filling

The acyclic commands listed below are for use with the IND500x Manual Filling Application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than IND500x Manual Filling Application. Please refer to the section specific to the application installed on your device if using something other than the IND500x Manual Filling Application. More details about this Application can be found in the IND500x Manual.

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report (-) Tolerance Weight. Unit: Active Target unit	R	Float32	0, 1	0x470E	x
Report (+) Tolerance Weight. Unit: Active Target unit	R	Float32	0, 1	0x470D	x
Report (-) Tolerance %	R	Float32	0, 1	0x472E	x

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report (+) Tolerance %	R	Float32	0, 1	0x472D	x
Write Target Weight, unit: Active Target unit	W	Float32	0, 1	0x4708	x
Write (-) Tolerance Weight. Unit: Active Target unit	W	Float32	0, 1	0x470E	x
Write (+) Tolerance Weight. Unit: Active Target unit	W	Float32	0, 1	0x470D	x
Set (-) Tolerance %	W	Float32	0, 1	0x472E	x
Set (+) Tolerance %	W	Float32	0, 1	0x472D	x
Target use gross weight	W	Short	0, 1	0x4078	x
Target use net weight	W	Short	0, 1	0x4079	x
Active Tolerance Type **Parameter**: 0=Target Deviation [default] 1=Exact Limits; 2=Percent of Target	RW	Short	0, 1	0x4737	x

5.6. Acyclic Commands – IND500x Basic Autofilling Application

The acyclic commands listed below are for use with the IND500x Basic Auto-Filling Application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than IND500x Basic Auto-Filling Application. Please refer to the section specific to the application installed on your device if using something other than the IND500x Basic Auto-Filling Application. More details about the IND500x Basic Auto-Filling Application can be found in the IND500x Manual.

Command/Description	Read/Write	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report Target Weight. Unit: Active Target unit	R	Float 32	0, 1	0x4708	x

Command/Description	Read/Write	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report Fine Feed Weight. Unit: Active Target unit	R	Float 32	0, 1	0x470A	x
Report Spill Weight. Unit: Active Target unit	R	Float 32	0, 1	0x4709	x
Report (-) Tolerance Weight. Unit: Active Target unit	R	Float 32	0, 1	0x470E	x
Report (+) Tolerance Weight. Unit: Active Target unit	R	Float 32	0, 1	0x470D	x
Report (-) tolerance value, %	R	Float 32	0, 1	0x472E	x
Report (+) tolerance value, %	R	Float 32	0, 1	0x470D	x
Write Target Weight. Unit: Active Target unit	W	Float 32	0, 1	0x4708	x
Write Fine Feed Weight. Unit: Active Target unit	W	Float 32	0, 1	0x470A	x
Write Spill Weight. Unit: Active Target unit	W	Float 32	0, 1	0x4709	x
Write (-) Tolerance Weight. Unit: Active Target unit	W	Float 32	0, 1	0x470E	x
Write (+) Tolerance Weight. Unit: Active Target unit	W	Float 32	0, 1	0x470D	x
Set (-) Tolerance %	W	Float 32	0, 1	0x472E	x
Set (+) Tolerance %	W	Float 32	0, 1	0x472D	x
Target use gross weight	W	Short	0, 1	0x4078	x
Target use net weight	W	Short	0, 1	0x4079	x
Active Tolerance Type **Parameter**: 0=Target Deviation [default] 2=Percent of Target	RW	Short	0, 1	0x4737	x
Control Command: 0-Stop; 1-Run; 2-Pause	W	Float 32	0, 1	0x4726	x

5.7. Acyclic Commands – IND500x Advanced Auto-Filling Application

The acyclic commands listed below are for use with the IND500x Advanced Auto-Filling Application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than IND500x Advanced Auto-Filling Application. Please refer to the section specific to the application installed on your device if using something other than the IND500x Advanced Auto-Filling Application. More details about the IND500x Advanced Auto-Filling Application can be found in the IND500x Manual.

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report Weight Unit	R	Float 32	0, 1	0x4708	x
Report Fine Feed Weight. Unit: Active Target unit	R	Float 32	0, 1	0x470A	x
Report Spill Weight. Unit: Active Target unit	R	Float 32	0, 1	0x4709	x
Report (-) Tolerance Weight. Unit: Active Target unit	R	Float 32	0, 1	0x470E	x
Report (+) Tolerance Weight. Unit: Active Target unit	R	Float 32	0, 1	0x470D	x
Report (-) Tolerance %	R	Float 32	0, 1	0x472E	x
Report (+) Tolerance %	R	Float 32	0, 1	0x472D	x
Write Target Weight. Unit: Active Target unit	W	Float 32	0, 1	0x4708	x
Write Fine Feed Weight. Unit: Active Target unit	W	Float 32	0, 1	0x470A	x
Write Spill Weight. Unit: Active Target unit	W	Float 32	0, 1	0x4709	x
Write (-) Tolerance Weight. Unit: Active Target unit	W	Float 32	0, 1	0x470E	x
Write (+) Tolerance Weight. Unit: Active Target unit	W	Float 32	0, 1	0x470D	x
Set (-) Tolerance %	W	Float 32	0, 1	0x472E	x

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Set (+) Tolerance %	W	Float 32	0, 1	0x472D	x
Work Mode	RW	Short	0, 1	0x4701	x
Active Material ID of Material Tale	RW	Short	0, 1	0x4733	x
Active Target ID in Material Table	RW	Short	0, 1	0x4734	x
Active Tare ID in Material Table	RW	Short	0, 1	0x4735	x
Active Material Path ID	RW	Short	0, 1	0x4736	x
Active Tolerance Type	RW	Short	0, 1	0x4737	x
Active Target Weight Unit	RW	Short	0, 1	0x4738	x
Actual Filled Weight. Unit: current unit	RW	Float 32	0, 1	0x4720	x
Active Tare Value	RW	Float 32	0, 1	0x4739	x
Active Tare Unit	RW	Short	0, 1	0x473A	x
Active Tare Low Limit	RW	Float 32	0, 1	0x4712	x
Active Tare High Limit	RW	Float32	0, 1	0x4711	x
Number of Feeds	RW	Float32	0, 1	0x4702	x
Feed Type	W	Short	0, 1	0x4703	x
Control Command	W	Short	0, 1	0x4726	x

5.8. Acyclic Commands – IND500x Over Under Application

The acyclic commands listed below are for use with the IND500x Over Under Application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than IND500x Over Under Application. Please refer to the section specific to the application installed on your device if using something other than the IND500x Over Under Application. More details about this Application can be found in the IND500x Manual.

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report Target Weight. Unit: Active Target unit	R	Float32	0, 1	0x4708	x
Report (-) Tolerance Weight. Unit: Active Target unit	R	Float32	0, 1	0x470E	x
Report (+) Tolerance Weight. Unit: Active Target unit	R	Float33	0, 1	0x470D	x
Report (-) Tolerance %	R	Float34	0, 1	0x472E	x
Report (+) Tolerance %	R	Float32	0, 1	0x472D	x
Write Target Weight. Unit: Active Target unit	W	Float32	0, 1	0x4708	x
Write (-) Tolerance Weight. Unit: Active Target unit	W	Float32	0, 1	0x470E	x
Write (+) Tolerance Weight. Unit: Active Target unit	W	Float32	0, 1	0x470D	x
Set (-) Tolerance %	W	Float32	0, 1	0x472E	x
Set (+) Tolerance %	W	Float32	0, 1	0x472D	x
Target use gross weight	W	Short	0, 1	0x4078	x
Target use net weight	W	Short	0, 1	0x4079	x
Active Tolerance Type **Parameter**: 0=Target Deviation [default]; 1=Exact Limits; 2=Percent of Target	RW	Short	0, 1	0x4737	x

5.9. Acyclic Commands – IND500x Drum-Filling Application

The acyclic commands listed below are for use with the IND500x Drum-Filling Application. Please note that these same commands will not necessarily be supported or may work differently if used with anything other than IND500x Drum-Filling Application. Please refer to the section specific to the application installed on your device if using something other than the IND500x Drum-Filling Application. More details about this Application can be found in the IND500x Manual.

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Report Target Weight. Unit: Active Target unit	R	Float32	0, 1	0x4708	x
Report Fine Feed Weight. Unit: Active Target unit	R	Float32	0, 1	0x470A	x
Report Spill Weight. Unit: Active Target unit	R	Float32	0, 1	0x4709	x
Report (-) Tolerance Weight. Unit: Active Target unit	R	Float32	0, 1	0x470E	x
Report (+) Tolerance Weight. Unit: Active Target unit	R	Float32	0, 1	0x470D	x
Report (-) Tolerance %	R	Float32	0, 1	0x472E	x
Report (+) Tolerance %	R	Float32	0, 1	0x472D	x
Write Target Weight, unit: Active Target unit	W	Float32	0, 1	0x4708	x
Write Fine Feed Weight. Unit: Active Target unit	W	Float32	0, 1	0x470A	x
Write Spill Weight. Unit: Active Target unit	W	Float32	0, 1	0x4709	x
Write (-) Tolerance Weight. Unit: Active Target unit	W	Float32	0, 1	0x470E	x
Write (+) Tolerance Weight. Unit: Active Target unit	W	Float32	0, 1	0x470D	x
Set (-) Tolerance %	W	Float32	0, 1	0x472E	x
Set (+) Tolerance %	W	Float32	0, 1	0x472D	x

Command/Description	RW	Data Type	PROFINET Slot +	PROFINET / EtherCAT Index	IND500x
Work Mode	RW	Short	0, 1	0x4701	x
Active Material ID of Material Tale	RW	Short	0, 1	0x4733	x
Active Target ID in Material Table	RW	Short	0, 1	0x4734	x
Active Tare ID in Material Table	RW	Short	0, 1	0x4735	x
Active Material Path ID	RW	Short	0, 1	0x4736	x
Active Tolerance Type **Parameter**: 0=Target Deviation [default] 1=Exact Limits 2=Percent of Target	RW	Short	0, 1	0x4737	x
Active Target Weight Unit	RW	Short	0, 1	0x4738	x
Actual Filled Weight. Unit: current unit	R	Float32	0, 1	0x4720	x
Active Tare Value	RW	Short	0, 1	0x4739	x
Active Tare Unit	RW	Float32	0, 1	0x473A	x
Active Tare Low Limit	RW	Float32	0, 1	0x4712	x
Active Tare High Limit	RW	Float32	0, 1	0x4711	x
Number of Feeds	Short	Float32	0, 1	0x4702	x
Feed Type	Short	Float32	0, 1	0x4703	x
Control Command 0-Stop;1-Run; 2-Pause; 4-Jog; 6-Resume; 7: Silence Alarm; 8: OK Key; 9: No Key; 13: Manual Accept	W	Float32	0, 1	0x4726	x

6 Frequently Asked Questions

6.1. What is the easiest way to get my SAI device communicating with my automation system?

METTLER TOLEDO provides various device description files for each SAI device covered in this manual. These files make integration into the automation system quick and easy. Many of these device description files are already installed by default in the latest versions of the most popular automation system configuration programs. If not already installed in your program, available device description files can be found below.

SAI Device	Automation Network	Device Description File	METTLER TOLEDO Product Page	Downloads Page
ACT350	EtherNet/IP	Add-On Profile (AOP) & Electronic Data Sheet (EDS)	www.mt.com/act350	ACT350 Downloads
ACT350DIO				ACT350DIO Downloads
ACT350POWERCELL			www.mt.com/act350-powercell	ACT350POWERCELLDownloads
ACT350 Precision			www.mt.com/act350-precision	ACT350 Precision Downloads
IND360			www.mt.com/ind360	IND360 Downloads
ACT350	PROFINET	GSDML File	www.mt.com/act350	ACT350 Downloads
ACT350DIO				ACT350DIO Downloads
ACT350POWERCELL			www.mt.com/act350-powercell	ACT350POWERCELLDownloads
ACT350 Precision			www.mt.com/act350-precision	ACT350 Precision Downloads
IND360			www.mt.com/ind360	IND360 Downloads
IND500x			www.mt.com/IND500x	
ACT350	PROFIBUS DP	GSD File	www.mt.com/act350	ACT350 Downloads
ACT350DIO				ACT350DIO Downloads
ACT350POWERCELL			www.mt.com/act350-powercell	ACT350POWERCELLDownloads
ACT350 Precision			www.mt.com/act350-precision	ACT350 Precision Downloads

SAI Device	Automation Network	Device Description File	METTLER TOLEDO Product Page	Downloads Page
IND360			www.mt.com/ind360	IND360 Downloads
IND360	EtherCAT	ESI File	www.mt.com/ind360	IND360 Downloads
IND360	CC Link IE Field Basic	CSP+ File	www.mt.com/ind360	IND360 Downloads

6.2. What are the Assembly Instance Values for each device covered in this manual?

Device	Block Format	Input	Output
ACT350 Single Port (ACT350-1P)	1 Block	103	100
ACT350 Single Port (ACT350-1P)	2 Blocks	101	100
ACT350 DIO, POWERCELL and Precision (ACT350- 2P)	1 Block	103	100
ACT350 DIO, POWERCELL and Precision (ACT350- 2P)	2 Blocks	101	100
IND360	2 Blocks	101	100
IND360	8 Blocks	105	100

6.3. How can I tell if my cyclic command executed successfully?

Once the cyclic command has been sent, monitor the response value. If the response value = cyclic command, the cyclic command was executed successfully. If bit 15 of the response value is high, that means an error has occurred when trying to execute the cyclic command.

If bit 15 of the response is low and the response does not equal the command, it could mean the command is still being executed. For example, the cyclic command "tare when stable" (command = 400) will wait for a no-motion before completing the tare. While waiting for a no-motion condition, the response value may equal 2047 (in-process). Eventually, the command will either complete successfully (response = 400) or the process will timeout if the no-motion condition is not met (response bit 15 = 1).

6.4. Is it possible to read gross weight and net weight at the same time?

It is possible to read both gross weight and net weight at the same time if using the SAI 8 block format. The 8 block format is available on the IND360 and IND500x. This format allows for 7

Measuring block cyclic commands and 1 status block cyclic command to be executed at the same time.

If using the SAI 1 block or 2 block formats, there is only one Measuring block available for cyclic commands at a time. In order to read gross weight and net weight using these formats, the weight commands will need to be cycled repeatedly in the automation system.

6.5. Bit 15 of my Measuring Block Response is High. What does this mean?

If bit 15 of the response for the Measuring block is high, an error has occurred when trying to execute the last cyclic command. The possible errors are:

Bit Value of Response	Decimal Value	Error	Description
1000000000000001	-32767	Invalid Command	Sent when the device determines that the command is known but cannot be executed. This might occur due state restrictions – for example attempting to zero when the scale is outside of acceptable zero range.
1000000000000010	-32766	Timeout Command	Sent when the valid command that is received by the device is unable to execute within a pre-determined time. This might occur for commands that require stable weight before execution, for example.
1000000000000100	-32764	Unknown Command	Sent when the device does not support this information (for example requesting rate values from a device that does not provide rate functionality).
1000000000001000	-32760	Invalid Command Data	Sent when a valid write command is received with an invalid argument (for example one that is smaller or larger than the allowed value).
1000000000010000	-32752	Aborted Command	Sent once a second command to cancel the prior command has been received and processed. This can only occur if the original command 1) permits cancellation, 2) has not already completed successfully, and 3) has not already failed.
1000000000100000	-32736	Step Failed Command	Sent when the device determines that the command's current step has failed. At this point the control system will need to decide whether to abort the sequence (command = 2004), to retry the step (command = 2005), or to skip this step (command = 2006) and try to perform the next step. Not all processes will allow all three of these options – those not permitted will have an invalid command response when the next step command is sent.

6.6. I still don't quite understand how SAI works. What other resources are available?

One of the best ways to understand SAI is to see an example of it. Sample code is provided for each SAI device covered in this manual. Sample code is written for Studio 5000 (EtherNet/IP) and TIA Portal (PROFINET and PROFIBUS DP). The sample code shows how to use cyclic commands such as zero and tare, scale processes like performing a span adjustment via acyclic commands and much more. These functions are contained in Add-On Instructions (AOIs) for EtherNet/IP and Function Blocks for PROFINET and PROFIBUS DP. Even if you do not have access to the software the sample code was written for, detailed engineering notes are available in the sample code download that explain how to use the sample code.

This SAI manual is specific to METTLER TOLEDO terminals and transmitters. A more detailed manual about SAI called 30588288_Rxx_MAN_UG_SAI_EN.pdf is available. This manual details SAI in a more general sense.

Both the sample code and SAI manual can be found on the downloads page of your SAI device. Refer to the table in Section 5.1 for a link to the downloads page.

If there are still questions, please contact your local METTLER TOLEDO representative for additional help.

A. Modbus RTU/Modbus TCP Commands

The commands in the table below are not SAI commands, but they are PLC commands that closely mirror some SAI commands so they have been included as an appendix. Please note that these commands are only supported by IND360.

IND360 supports the Modbus communication protocol. IND360 is able to communicate bi-directionally with the host system. Modbus commands "03H", "06H" and "10H" are supported.

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Report Default Value	IND360	40001	R	Float 32	x	x	x
Report Rounded Gross Weight	IND360	40003	R	Float 32	x	x	x
Report Rounded Tare Weight	IND360	40005	R	Float 32	x	x	x
Report Rounded Net Weight	IND360	40007	R	Float 32	x	x	x
Report Gross Weight	IND360	40009	R	Float 32	x	x	x
Report Tare Weight	IND360	40011	R	Float 32	x	x	x
Report Net Weight	IND360	40013	R	Float 32	x	x	x
Report Weight Unit	IND360	40015	R	Float 32	x	x	x
Report Raw load cell counts	IND360	40017	R	Float 32	x	x	
Write Preset Tare Weight	IND360	40020	W	Float 32	x	x	x
Tare	IND360	40022	W	Short	x	x	x
Report Tare operation status	IND360	40023	R	Short	x	x	x
Zero	IND360	40024	W	Short	x	x	x
Report zero operation status	IND360	40025	R	Short	x	x	x
Clear Tare	IND360	40026	W	Short	x	x	x
Tare Immediate	IND360	40027	W	Short	x	x	x
Zero Immediate	IND360	40028	W	Short	x	x	x
Print	IND360	40029	W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Report SN	IND360	40030	R	Short [20]	x	x	x
Report OS version	IND360	40040	R	Short [20]	x	x	x
Report Software Version	IND360	40070	R	Short [20]	x	x	x
Device identification	IND360	40080	R	Short [20]	x	x	x
Read gross weight from each POWERCELL LC	IND360	40090	R	Float 32[1+8]		x	
Read net weight from each POWERCELL LC	IND360	40108	R	Float 32[1+8]		x	
GEO code	IND360	40200	R/W	Float 32	x	x	
Disable /Enable keyboard **Parameter:** 1 - Disable, 0 - Enable	IND360	40202	R/W	Short	x	x	x
Report d	IND360	40204	R	Float 32	x	x	x
Report "Nmax"	IND360	40206	R	Float 32	x	x	x
Cancel adjustment / test (Abort Test Function / Adjustment) **Parameter:** 1 - exit the calibration	IND360	40401	W	Short	x	x	x
Report Adjustment/Test Status **Parameter:** 0 - Success 1 - In process 2 - Complete with dyanmic 255 - Fail	IND360	40402	R	Short	x	x	x
Set External adjustment weight	IND360	40403	W	Float 32	x	x	
Number of linearity ranges **Parameter:** 0 - Disable 1 - 3 point 2 - 4 point 3 - 5 point	IND360	40405	R/W	Short	x	x	
Zero Adjustment	IND360	40400	W	Short	x	x	
Span Adjustment Value 1 xLow	IND360	40407	R/W	Float 32	x	x	
Span Adjustment Value 2 Low	IND360	40409	R/W	Float 32	x	x	
Span Adjustment Value 3 Middle	IND360	40411	R/W	Float 32	x	x	
Span Adjustment Value 4 High	IND360	40413	R/W	Float 32	x	x	
Validate (Confirm) Adjustment **Parameter:** 1 - Confirm calibration	IND360	40415	R/W	Short	x	x	
Span Adjustment Counts 1 xLow	IND360	40416	R/W	Long	x	x	
Span Adjustment Counts 2 Low	IND360	40418	R/W	Long	x	x	

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Span Adjustment Counts 3 Middle	IND360	40420	R/W	Long	x	x	
Span Adjustment Counts 4 High	IND360	40422	R/W	Long	x	x	
Set number of steps & begin step calibration **Parameter:** 1 - Step 1 2 - Step 2 3 - Step 3 4 - Step 4 5 - Step 5	IND360	40424	write	Short	x	x	
Sets weight value for current step in calibration & starts step	IND360	40425	write	Float 32	x	x	
Calfree **Parameter:** 1 - Start Calfree	IND360	40427	write	Short	x		
Calfree cell capacity	IND360	40428	R/W	Float 32	x		
Calfree unit **Parameter**: 0 - g 1 - kg 2 - lb 3 - t 4 - ton	IND360	40430	R/W	Short	x		
Calfree cell output	IND360	40431	R/W	Float 32	x		
Get temporary weight in step mode	IND360	40433	R	Float 32	x	x	
Zero adjustment count	IND360	40435	R	Long	x	x	
Start adjustment with internal weight	IND360	40437	W	Short			x
Start adjustment with external weight	IND360	40438	W	Short			x
Start customer standard calibration	IND360	40439	W	Short			x
Start test with internal weight	IND360	40440	W	Short			x
Start test with external weight	IND360	40441	W	Short			x
Report test deviation	IND360	40442	R	Float 32			x
Requested weight	IND360	40444	R	Float 32			x
External test weight	IND360	40446	W	Float 32			x
CalFree Plus	IND360	40448	R/W	Short		x	
Enable / Disable step control C5	IND360	40449	R/W	Short			x
Sensitivity adjustment (Triggered) C8 1 -4	IND360	40450	W	Short			x
Sensitivity adjustment (Display weight) C8 7	IND360	40451	W	Float 32*2			x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Internal adjustment PBK/PFK	IND360	40455	W	Short			x
Report/Write Comparator 1 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40500	R/W	Short	x	x	x
Report/Write Comparator 2 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40501	R/W	Short	x	x	x
Report/Write Comparator 3 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40502	R/W	Short	x	x	x
Report/Write Comparator 4 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40503	R/W	Short	x	x	x
Report/Write Comparator 5 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40504	R/W	Short	x	x	x
Report/Write Comparator 6 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40505	R/W	Short	x	x	x
Report/Write Comparator 7 Source **Parameter:** 0 - None 1- Display weight 2 - ABS-display weight 3 - Gross weight	IND360	40506	R/W	Short	x	x	x
Report/Write Comparator 8 Source **Parameter:** 0 - None 1- Display weight	IND360	40507	R/W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
2 - ABS-display weight 3 - Gross weight							
Report/Write Comparator 1 Active **Parameter:** 0 - ″<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40520	R/W	Short	x	x	x
Report/Write Comparator 2 Active **Parameter:** 0 - ″<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40521	R/W	Short	x	x	x
Report/Write Comparator 3 Active **Parameter:** 0 - ″<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40522	R/W	Short	x	x	x
Report/Write Comparator 4 Active **Parameter:** 0 - ″<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40523	R/W	Short	x	x	x
Report/Write Comparator 5 Active **Parameter:** 0 - ″<" 1 - "<=" 2 - "=="	IND360	40524	R/W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"							
Report/Write Comparator 6 Active **Parameter:** 0 - "<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40525	R/W	Short	x	x	x
Report/Write Comparator 7 Active **Parameter:** 0 - "<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40526	R/W	Short	x	x	x
Report/Write Comparator 8 Active **Parameter:** 0 - "<" 1 - "<=" 2 - "==" 3 - ">" 4 - ">=" 5 -"<>" 6 - "_<>_" 7 - ">_<"	IND360	40527	R/W	Short	x	x	x
Report/Write Comparator 1 Limit	IND360	40540	R/W	Float 32	x	x	x
Report/Write Comparator 1 High Limit	IND360	40542	R/W	Float 32	x	x	x
Report/Write Comparator 2 Limit	IND360	40544	R/W	Float 32	x	x	x
Report/Write Comparator 2 High Limit	IND360	40546	R/W	Float 32	x	x	x
Report/Write Comparator 3 Limit	IND360	40548	R/W	Float 32	x	x	x
Report/Write Comparator 3 High Limit	IND360	40550	R/W	Float 32	x	x	x
Report/Write Comparator 4 Limit	IND360	40552	R/W	Float 32	x	x	x
Report/Write Comparator 4 High Limit	IND360	40554	R/W	Float 32	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Report/Write Comparator 5 Limit	IND360	40556	R/W	Float 32	x	x	x
Report/Write Comparator 5 High Limit	IND360	40558	R/W	Float 32	x	x	x
Report/Write Comparator 6 Limit	IND360	40560	R/W	Float 32	x	x	x
Report/Write Comparator 6 High Limit	IND360	40562	R/W	Float 32	x	x	x
Report/Write Comparator 7 Limit	IND360	40564	R/W	Float 32	x	x	x
Report/Write Comparator 7 High Limit	IND360	40566	R/W	Float 32	x	x	x
Report/Write Comparator 8 Limit	IND360	40568	R/W	Float 32	x	x	x
Report/Write Comparator 8 High Limit	IND360	40570	R/W	Float 32	x	x	x
Turn all internal & external output OFF **Parameter**: 1 - off	IND360	40700	W	Short	x	x	x
Report/Write #1 trig mode (edge) **Parameter:** 0 - Rising edge 1 - Failing edge	IND360	40701	R/W	Short	x	x	x
Report/Write #1 input Assignment **Parameter:** 0 - None 1 - Tare 2 - Zero 3 - Print 4 - Clear tare 5 - KeypadDisable 6 - SilenceAlarm (Only for APP) 7 - Reserved 8 - KeypadEnable	IND360	40702	R/W	Short	x	x	x
Report/Write #2 trig mode (edge) **Parameter:** 0 - Rising edge 1 - Failing edge	IND360	40703	R/W	Short	x	x	x
Report/Write #2 input Assignment **Parameter**: 0 - None 1 - Tare 2 - Zero 3 - Print 4 - Clear tare 5 - KeypadDisable 6 - SilenceAlarm (Only for APP) 7 - Reserved 8 - KeypadEnable	IND360	40704	R/W	Short	x	x	x
Report/Write #3 trig mode (edge) **Parameter**: 0 - Rising edge 1 - Failing edge	IND360	40705	R/W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Report/Write #3 input Assignment **Parameter**: 0 - None 1 - Tare 2 - Zero 3 - Print 4 - Clear tare 5 - KeypadDisable 6 - SilenceAlarm (Only for APP) 7 - Reserved 8 - KeypadEnable	IND360	40706	R/W	Short	x	x	x
Report/Write #4 trig mode (edge) **Parameter**: 0 - Rising edge 1 - Failing edge	IND360	40707	R/W	Short	x	x	x
Report/Write #4 input Assignment **Parameter**: 0 - None 1 - Tare 2 - Zero 3 - Print 4 - Clear tare 5 - KeypadDisable 6 - SilenceAlarm (Only for APP) 7 - Reserved 8 - KeypadEnable	IND360	40708	R/W	Short	x	x	x
Report/Write #5 trig mode (edge) **Parameter**: 0 - Rising edge 1 - Failing edge	IND360	40709	R/W	Short	x	x	x
Report/Write #5 input Assignment **Parameter**: 0 - None 1 - Tare 2 - Zero 3 - Print 4 - Clear tare 5 - KeypadDisable 6 - SilenceAlarm (Only for APP) 7 - Reserved 8 - KeypadEnable	IND360	40710	R/W	Short	x	x	x
Report/write #1 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net	IND360	40711	R/W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange							
Report/write #2 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange	IND360	40712	R/W	Short	x	x	x
Report/write #3 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange	IND360	40713	R/W	Short	x	x	x
Report/write #4 output assignment	IND360	40714	R/W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Parameter: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange							
Report/write #5 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange	IND360	40715	R/W	Short	x	x	x
Report/write #6 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7	IND360	40716	R/W	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
13-Comparator 8 14-Smart5 red 15-Smart5 orange							
Report/write #7 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange	IND360	40717	R/W	Short	x	x	x
Report/write #8 output assignment **Parameter**: 0-None 2-Over capacity 3-Under zero 4-Motion 5-Net 6-Comparator 1 7-Comparator 2 8-Comparator 3 9-Comparator 4 10-Comparator 5 11-Comparator 6 12-Comparator 7 13-Comparator 8 14-Smart5 red 15-Smart5 orange	IND360	40718	R/W	Short	x	x	x
Report scale status group **Parameter**: bit0 - Set Status bit1 - out of AD range over/under bit2 - Reserved bit3 - Data ok bit4 - RedAlert Alarm condition bit5 - Center of Zero bit6 - Motion bit7- Net Mode	IND360	40800	R	Short	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
bit8 - Customer overload bit9 - Customer underload bit10 - zero fail at start							
Read/Write customer defined overload threshold **Parameter**: 0-99 d	IND360	40801	R/W	Short	x	x	
Read/Write customer defined underload threshold **Parameter:** 0-99 d	IND360	40802	R/W	Short	x	x	
Report IO Input Group #1 **Parameter**: bit0 - Input1 bit1 - Input2 bit2 - Input3 bit3 - Input4 bit4 - Input5	IND360	40803	R	Short	x	x	x
Report/Write IO Output Group #1 **Parameter**: bit0 - Output1 bit1 - Output2 bit2 - Output3 bit3 - Output4 bit4 - Output5 bit5 - Output6 bit6 - Output7 bit7 - Output8 (not writable when no outputs on device)	IND360	40805	R/W	Short	x	x	x
Report Alarm status group	IND360	40807	R	Short	x	x	x
Report RedAlert Group	IND360	40808	R	Short	x	x	x
Report scale status group 2	IND360	40809	R	Short	x	x	x
Report Comparator status group 1	IND360	40810	R	Short	x	x	x
Report custom group 1	IND360	40811	R	Short	x	x	x
Report custom group 2	IND360	40812	R	Short	x	x	x
Re-Initialize the parameters **Parameter**: 1- Parameter re-initialize (All parameters need to be enabled by this command)	IND360	40999	W	Short	x	x	x
Target Source	IND360 TankVessel	41001	R/W	Short	x	x	x
Tank Capacity	IND360 TankVessel	41002	R/W	Float 32	x	x	x
Upper Limit	IND360 TankVessel	41004	R/W	Float 32	x	x	x

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Lower Limit	IND360 TankVessel	41006	R/W	Float 32	x	x	x
Lower Limit Alarm	IND360 TankVessel	41008	R/W	Float 32	x	x	x
Over Limit Alarm	IND360 TankVessel	41010	R/W	Float 32	x	x	x
Current Weight	IND360 TankVessel	41012	R	Float 32	x	x	x
Percentage	IND360 TankVessel	41014	R	Float 32	x	x	x
Clear Statistics	IND360 TankVessel	41016	W	Short	x	x	x
Lower Limit Counts	IND360 TankVessel	41017	R	Long	x	x	x
Upper Limit Counts	IND360 TankVessel	41019	R	Long	x	x	x
Refill Counts	IND360 TankVessel	41021	R	Long	x	x	x
Alarm Status	IND360 TankVessel	41023	R	Short	x	x	x
Run Status	IND360 TankVessel	41024	R	Short	x	x	x
Control Command	IND360 TankVessel	41025	W	Short	x	x	x
Photoeye Mode	IND360 DYN	42001	R/W	Short	x		
Installation Position	IND360 DYN	42002	R/W	Short	x		
Multiple Objects	IND360 DYN	42003	R/W	Short	x		
Burr Time	IND360 DYN	42004	R/W	Short	x		
Interval Time	IND360 DYN	42005	R/W	Short	x		
Object Length	IND360 DYN	42006	R/W	Short	x		
Belt Speed	IND360 DYN	42007	R/W	Short	x		
Belt length	IND360 DYN	42008	R/W	Short	x		
Photoeye Polarity	IND360 DYN	42009	R/W	Short	x		
Min. Weighing Time	IND360 DYN	42010	R/W	Short	x		
Max. Weighing Time	IND360 DYN	42011	R/W	Short	x		
Filter Mode	IND360 DYN	42012	R/W	Short	x		
Filter Parameter	IND360 DYN	42013	R/W	Short	x		
Compensation Management	IND360 DYN	42038	R/W	Short	x		
Weight1	IND360 DYN	42039	R/W	Float 32	x		
Weight2	IND360 DYN	42041	R/W	Float 32	x		
Weight3	IND360 DYN	42043	R/W	Float 32	x		
Weight4	IND360 DYN	42045	R/W	Float 32	x		
Weight5	IND360 DYN	42047	R/W	Float 32	x		
Factor1	IND360 DYN	42049	R/W	Float 32	x		
Factor2	IND360 DYN	42051	R/W	Float 32	x		

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Factor3	IND360 DYN	42053	R/W	Float 32	x		
Factor4	IND360 DYN	42055	R/W	Float 32	x		
Factor5	IND360 DYN	42057	R/W	Float 32	x		
Completed Signal Time	IND360 DYN	42014	R/W	Short	x		
Match Weighing Time	IND360 DYN	42015	R/W	Short	x		
Object Counts	IND360 DYN	42016	R	Short	x		
Total Counts	IND360 DYN	42017	R	Long	x		
Dynamic Weight	IND360 DYN	42019	R	Float 32	x		
Real Weighing Time	IND360 DYN	42021	R	Short	x		
Run Status	IND360 DYN	42022	R	Short	x		
Alarm Status	IND360 DYN	42023	R	Short	x		
Control command	IND360 DYN	42025	W	Short	x		
Clear Statistics	IND360 DYN	42026	W	Short	x		
Valid Weight Counts	IND360 DYN	42034	R	Long	x		
Invalid Weight Counts	IND360 DYN	42036	R	Long	x		
Zero state	IND360 DYN	42027	R/W	Short	x		
Empty state	IND360 DYN	42028	R/W	Short	x		
Over Weight	IND360 DYN	42029	R/W	Float 32	x		
Under Weight	IND360 DYN	42031	R/W	Float 32	x		
Photoeye timeout	IND360 DYN	42033	R/W	Short	x		
Dynamic Zero Enable	IND360 DYN	42060	R/W	Short	x		
Dynamic Zero Threshold	IND360 DYN	42061	R/W	Float 32	x		
Dynamic Zero Delay	IND360 DYN	42063	R/W	Short	x		
Dynamic Zero Interval	IND360 DYN	42064	R/W	Short	x		
Work Mode	IND360 FillDose	43001	RW	Short	x		
Feed Speeds	IND360 FillDose	43002	RW	Short	x		
Output Type	IND360 FillDose	43003	RW	Short	x		
Complete Mode	IND360 FillDose	43004	RW	Short	x		
Clear Statistics	IND360 FillDose	43006	W	Short	x		
Target Source	IND360 FillDose	43007	RW	Short	x		
Target	IND360 FillDose	43008	RW	Float 32	x		
Spill	IND360 FillDose	43010	RW	Float 32	x		
Fine Feed	IND360 FillDose	43012	RW	Float 32	x		

Command	Device	Address	Read/Write	Data Type	IND360 Analog	IND360 POWERCELL	IND360 Precision
Fast Feed	IND360 FillDose	43014	RW	Float 32	x		
Heel Weight	IND360 FillDose	43016	RW	Float 32	x		
+Tolerance	IND360 FillDose	43018	RW	Float 32	x		
-Tolerance	IND360 FillDose	43020	RW	Float 32	x		
Upper Limit	IND360 FillDose	43026	RW	Float 32	x		
Lower Limit	IND360 FillDose	43028	RW	Float 32	x		
Container Tare Max.	IND360 FillDose	43022	RW	Float 32	x		
Container Tare Min.	IND360 FillDose	43024	RW	Float 32	x		
Inhibit Time	IND360 FillDose	43030	RW	Float 32	x		
Stable Time	IND360 FillDose	43032	RW	Float 32	x		
Complete Time	IND360 FillDose	43034	RW	Float 32	x		
Control Timeout	IND360 FillDose	43036	RW	Float 32	x		
Process Timeout	IND360 FillDose	43038	RW	Float 32	x		
Self Learning Mode	IND360 FillDose	43040	RW	Short	x		
Spill Adjust Period	IND360 FillDose	43041	RW	Short	x		
Spill Adjust Factor	IND360 FillDose	43042	RW	Float 32	x		
Spill Adjust Range	IND360 FillDose	43044	RW	Float 32	x		
Control Reliability	IND360 FillDose	43047	RW	Short	x		
Learning Samples	IND360 FillDose	43049	RW	Short	x		
Adjust Factor	IND360 FillDose	43050	RW	Float 32	x		
Filling Dosing Weight	IND360 FillDose	43052	R	Float 32	x		
Min. Cycle Weight	IND360 FillDose	43054	R	Float 32	x		
Max. Cycle Weight	IND360 FillDose	43056	R	Float 32	x		
Total Cycle Weight	IND360 FillDose	43058	R	Float 32	x		
Total Buckets	IND360 FillDose	43060	R	Long	x		
Valid Buckets	IND360 FillDose	43062	R	Long	x		
Alarm Status	IND360 FillDose	43064	R	Short	x		
Run Status	IND360 FillDose	43065	R	Short	x		
Control Command	IND360 FillDose	43066	W	Short	x		

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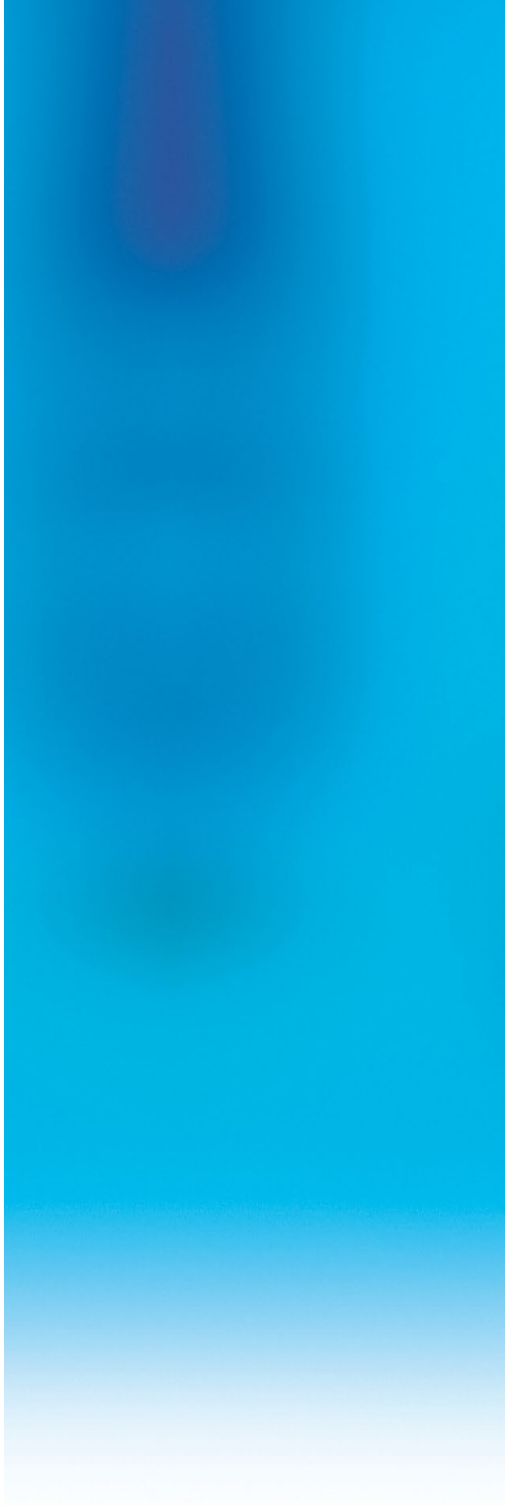

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For more information

Mettler-Toledo, LLC
1900 Polaris Parkway
Columbus, OH 43240

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