

Modular Weighing for Automation

Connect Smart Sensors to Systems



Boost Machine Performance

With ultra-fast processing connected to the world's most widely used PLCs/DCS, the IND360 indicator boosts productivity and increases operational uptime. Condition monitoring and Smart5™ alarming ensure your system is performing as expected and lets you react quickly when issues arise.



Simplify Integration

IND360 is the smartest way to integrate weighing. For ease of use, indicators use certified automation interfaces and include sample-programming code. Detailed documentation and automation drivers including Rockwell EDS, AOPs and Siemens function blocks save you time and money on implementation and maintenance.



Eliminate Programming Time

Preprogrammed applications for semi- or fully automated weighing processes including tank/vessel weighing, filling/dosing, allow you to benefit from METTLER TOLEDO's weighing expertise. You improve process throughput without spending time on custom programming.



Make Compliance Worry-Free

IND360 product family is certified compliant with both international and local standards enabling streamlined procurement, faster implementation, and more efficient cross-border startup without the usual headaches associated with exporting equipment.



IND360base Automation Indicators

Optimize Weighing Integration

IND360base automation indicators deliver precision measurement and status information to your control system. This gives you the ability to easily and efficiently manage your weighing applications, boost throughput and save time and materials.

IND360 includes the following key features:

- Up to 960 Hz ultra-high cyclical PLC update rate
- Up to 7 simultaneous floating point variables
- Automation Buses: PROFINET, Profibus DP, EtherNet/IP, EtherCAT, CC-Link IE Field Basic, Modbus TCP, Modbus RTU and 4-20mA/0-10VDC
- Operator display and network status LEDs, web interface for service and monitoring
- CalFree™ and CalFree Plus™, as well as automatic PLC/DCS-driven calibration of precision scales

Technical Features
IND360 Automation Indicator

Parameter	Detail	Units of Measurement	DIN	Panel	Harsh
Housing	Enclosure type		DIN-Rail mount, quick connection with automatic grounding	Panel mount with detachable electronics	VESA 100 Desk/wall/column mount
	Material		Rugged ABS plastic	Stainless steel front panel with hygienic drip edge including mounting hardware	Stainless steel, includes fixed-angle brackets
	Ingress protection		IP20, Type 1	IP65 display, IP20 electronics	IP66 and IP69K
	W x H x D	mm / in	40 x 130 x 100 / 1.6 x 5.1 x 3.9	175 x 94 x 16 / 6.9 x 3.7 x 0.6	275 x 85 x 200 / 10.8 x 3.3 x 7.9
	Shipping weight	kg / lb	0.5 / 1.1	1.7 / 3.7	3.6 / 7.9
	Legal for Trade	°C / °F	-10 to 40 / 14 to 104; 10% to 90% relative humidity, non-condensing		
	Operation	°C / °F	-10 to 50 / 14 to 122; 10% to 90% relative humidity, non-condensing		
	Storage	°C / °F	-40 to 60 / -40 to 140; 10% to 90% relative humidity, non-condensing		
	Power Requirements	DC powered	VDC / W	20 - 28VDC ¹ / 12W ² ¹ Power supply short circuit protection time shall be equal or longer than 100ms. ² 18W, when 5 to 8 POWERCELLS are connected	
AC powered		VAC / Hz	NA	100 - 240 VAC / 49 - 61 Hz	
Power Dissipation	DC powered	W	3	4.5	4.5
	AC powered	W	NA	6	6
Scale	Number of scales		1		
	Strain gauge (analog) type		Max. 8x 350Ω (20x 1,000Ω) load cells; 1-4mV/V sensitivity; 5VDC excitation voltage		
	µV build recommended / approved		0.1 µV/d recommended; 0.3 µV/e Weights and Measures approved		
	POWERCELL® type		Supports one PowerDeck™ floor scale or a network of up to 8 POWERCELL® load cells, or PowerMount™ weigh modules		
	Precision type		Precision scales and weigh modules – see Precision Scale Compatibility on page 6		
	Adjustment / calibration		Zero / span with linearization up to 5 points; step; CalFree (analog scale) / CalFree Plus (POWERCELL® scale)		
	Primary unit		Analog/POWERCELL®: g, kg, lb, t and ton Precision: Determined by scale or weigh module		
	Calibration unit		Analog/POWERCELL®: g, kg, lb, t and ton Precision: Determined by scale or sensor		
	Capacity & increment		Analog/POWERCELL®: 1,000,000 maximum Capacity, maximum 100,000 display increments Precision: Determined by scale or sensor		
	Connectivity	Automation interface		Optional: EtherNet/IP, Profibus DP, PROFINET, EtherCAT, CC-Link IE Field Basic, Modbus TCP, Modbus RTU, or Analog Output (4-20 mA/0-10VDC, 16-bit resolution)	
Redundancy			Media Redundancy Protocol (MRP - Siemens) and Device Level Ring (DLR - ODVA)		
Protocol			Standard Automation Interface (SAI) 2 and 8 block format		
Protocol type			Floating point and binary; cyclical or acyclical		
Simultaneous floating point variables			1 or 7 user-selectable including status block for condition monitoring		
Alarm status			Smart5™ based on NAMUR NE107		
Condition monitoring			Heartbeat, Data OK, Smart5™		
Automation Bus drivers - Siemens			GSD (Profibus DP), GSDML (PROFINET), function block		
Certification Profibus DP / PROFINET			Profibus international Certificate No: Z02266, Z13050, Z13051		

Technical Features Continued
IND360 Automation Indicator

Parameter	Detail	Units of Measurement	DIN	Panel	Harsh
Connectivity	Automation device drivers ODVA / Rockwell		Electronic Data Sheet (EDS), Custom Add-on Profile (AOP), Custom Add-on Instruction (AOI)		
	Certification EtherNet/IP		Open Device Vendors Association (ODVA) File Number: 12095.01		
	Automation Bus drivers - Beckhoff		EtherCAT Slave Information (ESI)		
	Automation Bus drivers - Mitsubishi		Control & Communication System Profile Plus (CSP+)		
Service Interfaces	Service interfaces		Web interface over Ethernet TCP/IP and/or keypad and display		
	Service functions		Configuration, adjustment, parameter backup and restore, cloning and monitoring		
Automation Bus Update Rate	Strain gauge (analog)	Hz	960 for PROFINET, EtherNet/IP, Profibus DP, EtherCAT, CC-Link IE Field Basic without application 480 for PROFINET, EtherNet/IP, Profibus DP, EtherCAT, CC-Link IE Field Basic with application 100 for analog output, Modbus TCP and Modbus RTU		
	POWERCELL®/PowerMount™/PowerDeck™		100 for 1-4 load cells; 50 for 5-8 load cells over all automation interfaces		
	Precision		Maximum 92Hz over all automation interfaces		
Filtering	Strain gauge (analog)	Weighing Mode	Normal, dynamic		
		Environment	Very stable, stable, standard, unstable, very unstable		
		Limit Frequency	Low pass filter, 1 - 20Hz		
	POWERCELL®/PowerMount™/PowerDeck™	Low Pass Filter	Very light, light, medium, heavy		
		Stability Filter	Enable, disable		
Precision scales and weigh modules		Filter type and settings depending on scale or weigh module			
Inputs / Outputs	Optional inputs (selectable polarity)		Max. 5 inputs - functions: none, clear tare, tare, zero, print. Voltage range high: 5 ~ 30VDC; voltage range low 0 ~ 3VDC		
	Optional Outputs		Max. 8 outputs - functions: none, center of zero, comparators (1-8), Smart5 red, Smart5 orange, motion, net, over capacity, under zero. Voltage range high: 5 ~ 30VDC, max current 150mA		
Display	Type		1.04" Green OLED	4.3" Color TFT	
	On-display status Indicators		Weight units, gross/net indication; graphic symbols for motion, center of zero, Smart5 alarms.		
	Tri-color status LEDs		System (SYS), Network 1 (NW1), Network 2 (NW2)	Status information displayed on main display	
	Weight display	Characters	Maximum 9 digits including sign, displays 8 weight digits on high-precision devices		
Keyboard	Keys		4 keys (Up, Down, Left, Enter)	5 keys (Up, Down, Left, Right, Enter)	
	Overlay		0.9 mm thick polyester overlay (PET) with 0.178 mm thick polycarbonate display lens	0.9 mm thick polyester overlay (PET) with 0.178 mm thick polycarbonate display lens	
User Security	-		3 levels: administrator, maintenance and operator		
Logs	Alibi		27,000 records		
	Error log		500 records		
	Maintenance log		2,500 records		
	Change log		2,500 records		

IND360base Automation Indicator

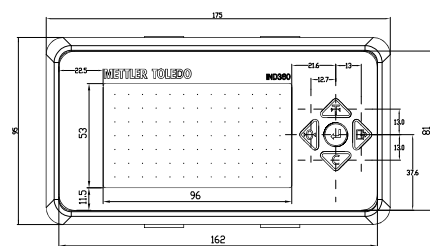
Safety and Metrology

Parameter	Detail	DIN	Panel	Harsh
Approvals	Product safety	UL, cUL, CE, FCC, CB		
	Metrology approval	IND360 Analog and IND360 POWERCELL®: Europe: Class III , T11060 TC11949 USA: Class III / III L n max. 10,000 CC No. 21-002 Canada: Class III / IIIHD n max. 10,000 AM-6161 China: Class III n max. 10,000 IND360 Precision: Europe: II T11060, TC11949 USA: Class II / III / III L n max. 100,000 / 10,000 CC No. 21-002 Canada: Class II / III / IIIHD n max. 100,000 / 10,000 AM-6161		
Additional certifications may be found at www.mt.com/compliance				

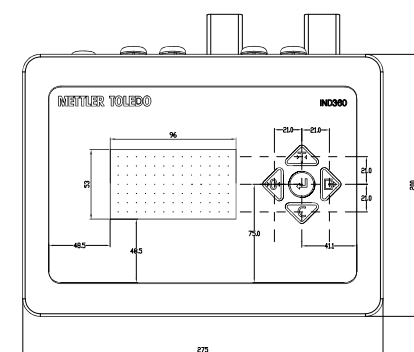
Technical Features Continued

IND360 Automation Indicator

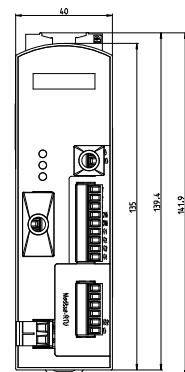
IND360 Panel dimension



IND360 Harsh dimension



IND360 DIN dimension



Precision Scale Compatibility

IND360 Automation Indicators

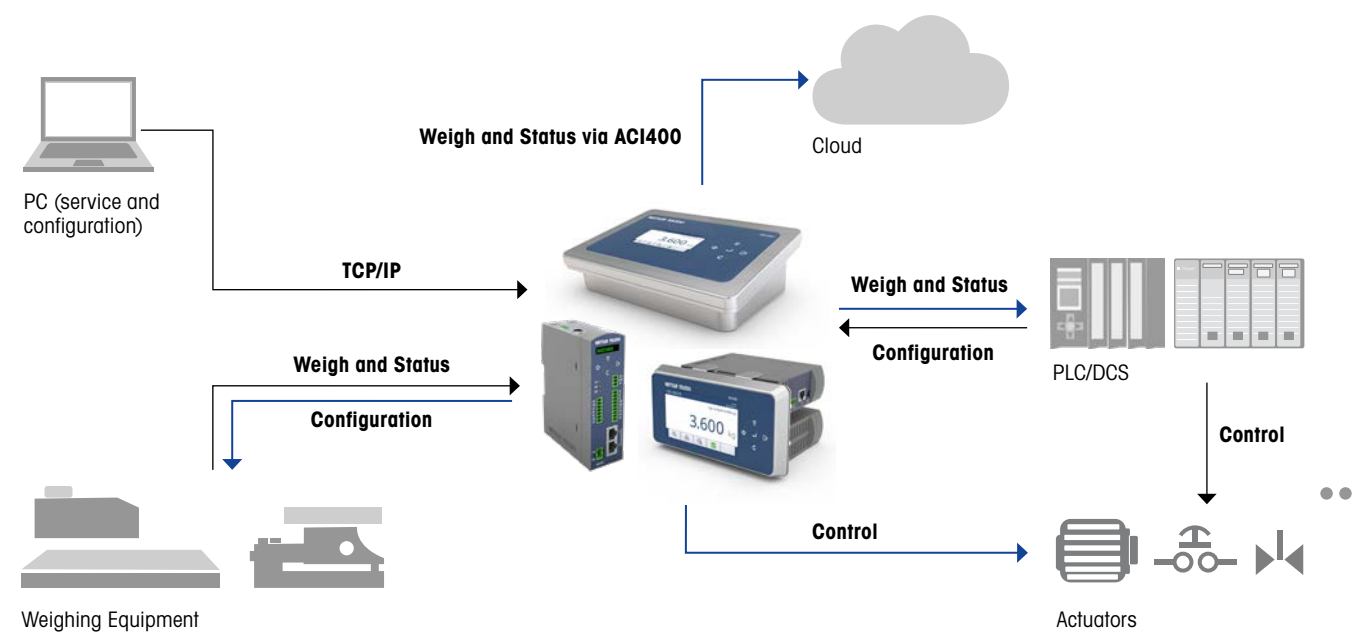
IND360 Precision connects to many types of precision weigh modules. The following table lists how various functions are supported when different types of weigh modules or scales are connected.

	Precision Scales for Legal-for-Trade	Precision Scales for Automation
Compatible Modules	PBD555 / PBD769 / PBD655 / PBK785 / PBK9 / PTA4XX / PFA5XX / PUA5XX / PFA779lift / PFK9	WKC / WMS / WXS / SLF6 / PBK989-APW / PFK989-APW
Basic Functions: Read weight and status, tare, zero, clear	Display/keypad	Display/keypad
	Web interface	Web interface
	Automation interface	Automation interface
Parameter configuration: e.g. calibration, adjustment, filter parameters	Panel and harsh version: use the display/keypad	Display/keypad (main parameters)
	DIN version: not supported on OLED. Use panel display (30617718), and the display cable (30624029). Purchase as a separate item.	Software tool: APW-Link (all parameters)
		Automation interface ¹
Firmware upgrade for precision modules	Software tool: eloader	Software tool: eloader

¹ Each weigh module supports different functions. Please consult the SAI (Standard Automation Interface) manual for further details.

Connection Drawings

IND360 Automation Indicators



IND360 connects many different types of weighing equipment to automation controls such as PLCs or DCSs. It provides the ability to manage weighing applications that directly drive outputs for actuators and receive inputs from switches - see IND360 manuals for more details. IND360 is very easy to setup using the web interface that is accessed via a web browser such as Microsoft Edge or Google Chrome. When cloud connectivity is desired, choose the METTLER TOLEDO ACI400.

All relevant documentation, software, device description files, and sample code are available at:

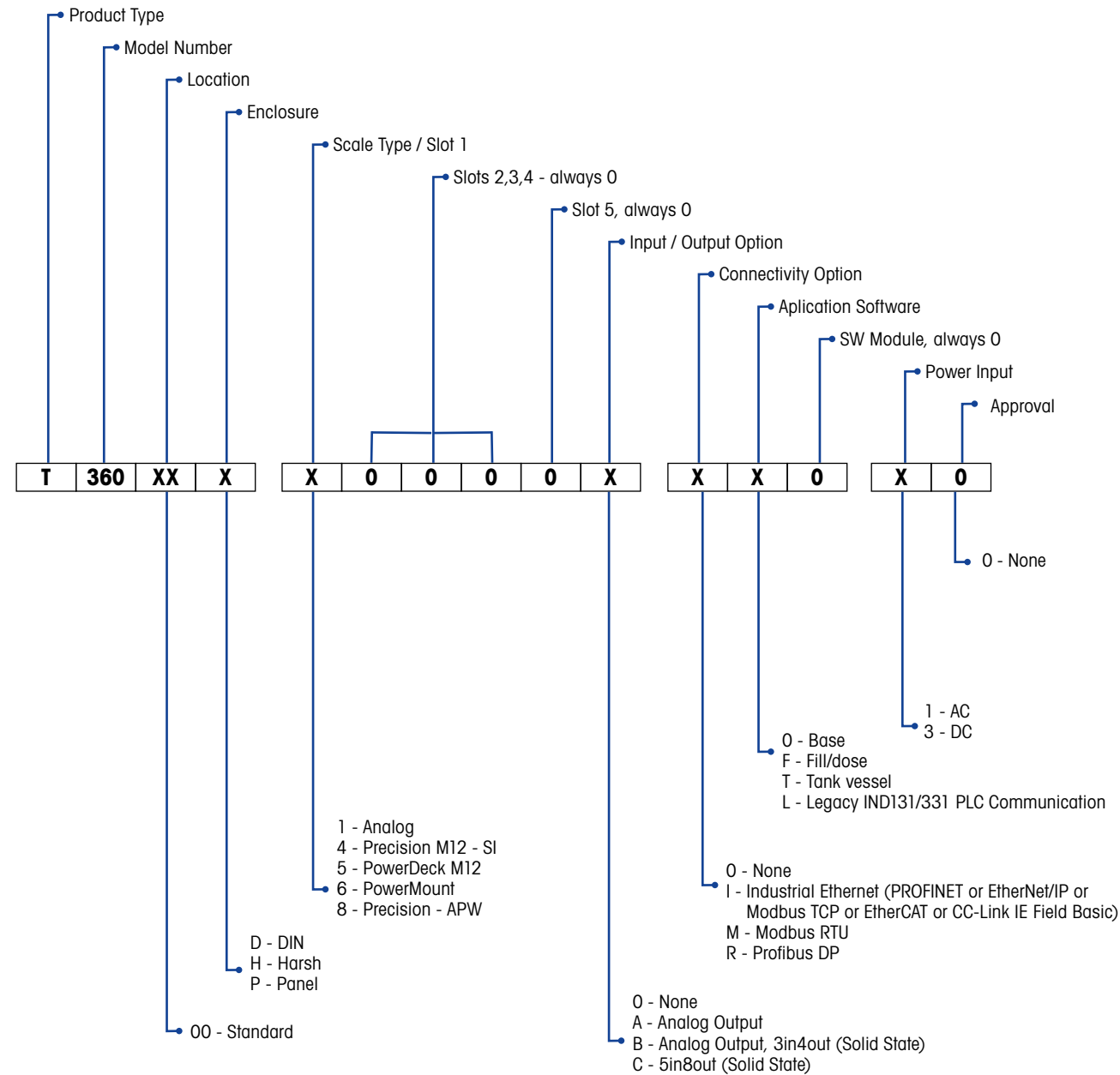
► www.mt.com/ind-IND360-downloads

Ordering Information

IND360 Automation Indicators

IND360 is available in different variants with the main item number 30601194.

Choose options according to the variant configuration structure, and contact your METTLER TOLEDO Sales representative for detailed ordering information.



Ordering Information

IND360 Automation Indicators

Base Unit	Descriptions
Item Number	IND360 in different enclosures
30601194	IND360 DIN Mount
	IND360 Panel Mount
	IND360 Harsh

Smart Options	
	1 = None (analog scale)
	4 = Precision (PBK, PFK) - Standard Industrial (approved readability and M12 connector on terminal side)
	5 = PowerDeck M12 (connector on terminal side)
	6 = PowerMount (open wires on terminal side)
	8 = Precision - APW incl. PBK, PFK (higher readability and open wires on terminal side)

Input/Output Options	
	0 = None
	A = Analog output (4 - 20mA / 0 - 10VDC)
	B = Analog output (4 - 20mA / 0 - 10VDC) plus 3 digital inputs / 4 digital outputs (solid state)
	C = 5 digital inputs / 8 digital outputs (solid state)

Connectivity Options	
	0 = None
	I = Industrial Ethernet (PROFINET or EtherNet/IP or Modbus TCP or EtherCAT or CC-Link IE Field Basic)
	M = Modbus RTU
	R = Profibus DP

Application Options	
	0 = Base
	F = Fill/dose
	T = Tank vessel
	L = legacy IND131/331 PLC Communication

Power Options	
	1 = AC (AC/DC power module included)
	3 = DC

Explore Our Service Solutions

Tailored to Fit Your Equipment Needs

METTLER TOLEDO Service delivers resources to enhance your efficiency, performance, and productivity by providing service packages that fit your operational needs, maximize your equipment lifetime, and protect your investment.

► www.mt.com/IND-Service



Start with professional installation

Installation services include support for your unique production situation:

- Professional IQ/OQ/PQ/MQ documentation
- Initial calibration and confirmation of fit-for-purpose
- Hazardous area installations



Extend your warranty coverage

Add two years of preventive maintenance and repair coverage to protect your equipment purchase and achieve maximum productivity and budget control.



Calibrate for quality and compliance

The professional Accuracy Calibration Certificate (ACC) determines measurement uncertainty in use over the entire weighing range. Corresponding annexes gives a clear pass/fail statement for specific tolerances applied, such as fit-for-purpose (GWP®), OIML R76, NTEP HB44, or further regulations.



Schedule maintenance

Full preventative maintenance plans offer inspection, functional testing, and proactive replacement of worn parts.

Health inspections offer a full assessment of current equipment condition with professional maintenance recommendations.



Maintain accuracy over time

Receive professional guidance (GWP® Verification™), including a routine testing plan that specifies four key factors to maximize your efficiency and ensure quality:

- Tests to perform
- Weights to use
- Testing frequency
- Tolerances to apply

“ Our extensive service network is among the best in the world and ensures maximum availability and service life of your product. ”



METTLER TOLEDO Service

Ordering Information

IND360 Automation Indicators

Accessories

Item Number	Descriptions
30601149	4 - 20mA / 0 - 10VDC analog output PCBA kit for IND360 DIN and Panel mount version including enclosure opening tool
30601150	4 - 20mA / 0 - 10VDC analog output PCBA kit for IND360 Harsh version
30601151	PCBA kit of 4 - 20mA / 0 - 10VDC analog output, 3 discrete inputs, 4 discrete outputs (solid state) for IND360 DIN and Panel mount version including enclosure opening tool
30601152	PCBA kit of 4 - 20mA / 0 - 10VDC analog output, 3 discrete inputs, 4 discrete outputs (solid state) for IND360 Harsh version
30601153	PCBA kit of 5 discrete inputs, 8 discrete outputs (solid state) for IND360 DIN and Panel mount version including enclosure opening tool
30601154	PCBA kit of 5 discrete inputs, 8 discrete outputs (solid state) for IND360 Harsh version
30601155	PCBA kit of Industrial Ethernet connection (PROFINET, EtherNet/IP, EtherCAT, CC-Link IE Field Basic or Modbus TCP) for IND360 DIN and Panel mount version including enclosure opening tool
30601156	PCBA kit of Industrial Ethernet connection (PROFINET, EtherNet/IP, EtherCAT, CC-Link IE Field Basic or Modbus TCP) for IND360 Harsh version
30601159	PCBA kit of Modbus RTU connection for IND360 DIN and Panel mount version including enclosure opening tool
30601160	PCBA kit of Modbus RTU connection for IND360 Harsh version
30601161	PCBA kit of Profibus DP connection for IND360 DIN and Panel mount version including enclosure opening tool
30601162	PCBA kit of Profibus DP connection for IND360 Harsh version
30617714	AC/DC Power Module APS324
30617716	Power supply cable from the APS324 power module to IND360
30624028	Complete set of IND360 connectors.
30624029	Display cable (3m) from IND360 module to the panel. Use this when the IND360 module is not mounted to the back of the panel.
30624030	Display cable (11cm) from IND360 module to the panel. Use this when the IND360 module is mounted to the back of the panel.
30462051	VESA 100 Bracket to mount a IND360 Harsh version on desk or on wall
22020286	Adjustable Column Bracket VESA 100 for IND360 Harsh version
30624077	Opening tool for IND360 DIN mount version enclosure

www.mt.com/IND360

For more information

METTLER TOLEDO Group

Industrial Division

Local contact: www.mt.com/contacts



Subject to technical changes

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