

“Premium” Transmitter Line M 700

M 700, the modular system to measure pH, DO and conductivity for highest performance in the chemical, pharmaceutical and food & beverage industry.

Technical Data



Short description

The modular M 700 consists of a basic unit and modules for pH, conductivity and dissolved oxygen. This allows the simultaneous measurement of up to three parameters. Additional modules are available for PID controller, output and limit contacts and Profibus communication. The instrument offers a wide range of powerful features through a menu driven set-up program. A variety of options are available. The M 700 system comes in two designs: One for heavy chemical process application and one for biotechnology, food and beverage as well as pharmaceutical application. The M 700 is available in a non Ex, and in an Ex version.

Features

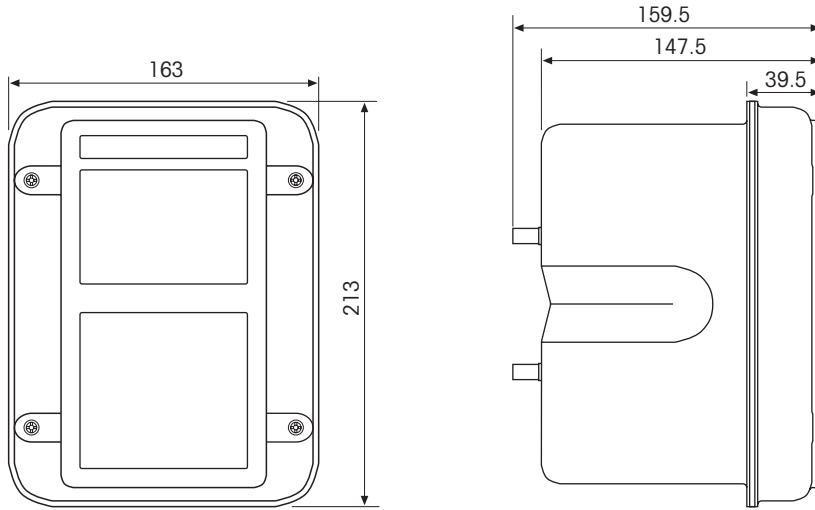
- Modular measuring system, future oriented
- Simultaneous measurement, e.g. pH/pH; pH/DO; pH/Cond
- High operational safety and measuring performance
- Back lighted graphic LC Display
- Base unit M 700S stainless steel, hygienic design
- Base unit M 700C, coated stainless steel enclosure
- High flexibility due to many software options, e.g.
 - Supporting FDA 21 CFR Part 11
 - Logbook
 - Data storage on SmartMedia™ card
- M 700X, ATEX certified version

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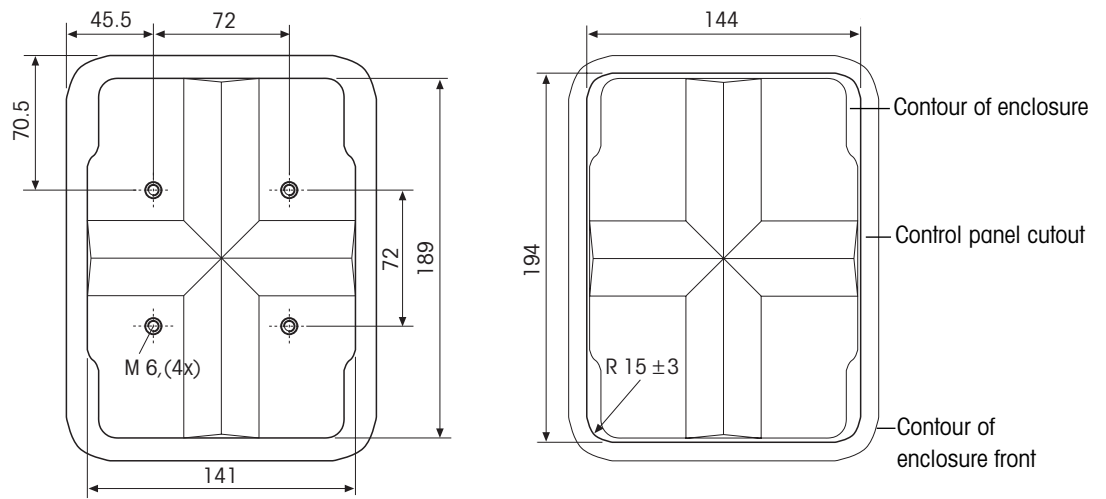
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METTLER TOLEDO

Front and side view

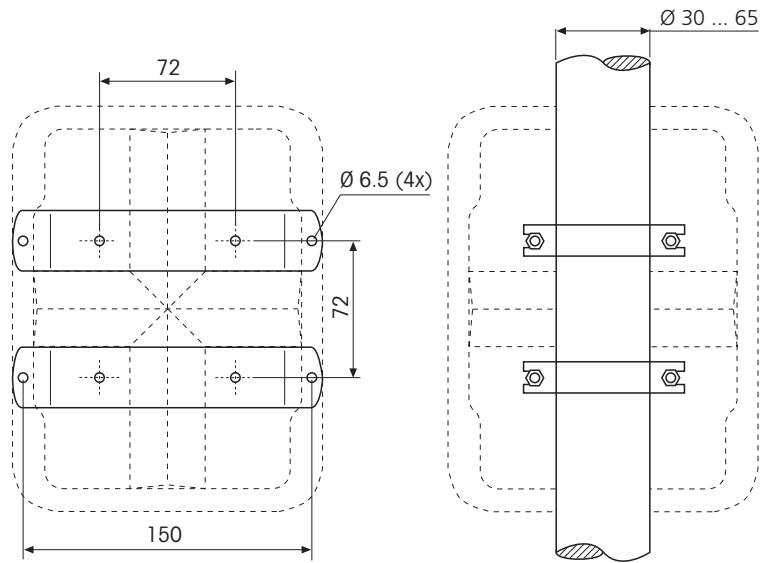


Back view and panel cutout



all dimensions in mm

Wall and pipe/post mounting



all dimensions in mm

Display	LC graphic display, white backlighting Resolution 240 x 160 pixels Languages German, English, French, Italian, Spanish, Swedish
Keypad	NAMUR keypad, individual keys, no double assignments [meas] [menu] ▼ ▲ ◀ ▶ [enter] [soffkey 1] [soffkey 2], NAMUR LEDs red and green
Logbook	Recording of function activations, appearance and disappearance of warning and failure messages, with date and time Storage capacity Approx. 50 entries without SmartMedia™ card, can be read from display and exported via SmartMedia™ card Extended logbook > 50 000 entries, depending on memory size of SmartMedia™ card
Measurement recorder	2-channel measurement recorder with marking of events (failure, maintenance request, function check, limit values) Recording medium SmartMedia™ card Recording capacity > 50 000 entries, dependent on memory size of the SmartMedia™ card Recording Process variables and span selectable Recordtype method Snapshot, min/max or mean value Time base 10 s ... 10 h/pixel Zoom function 10 fold zoom in the event of high rate of change
Sensor monitor	Direct display of measured values from sensor for validation
AI recorder	Adaptive representation of a process sequence with monitoring and signaling of critical process parameters (AI = artificial intelligence)
Device self-test	Testing RAM, FLASH, EEPROM, display and keypad, records for QM documentation in accordance with ISO 9000
Clock	Real-time clock with date Power reserve Approx. 1 year (lithium battery)
Data retention (in case of power failure)	Parameters/factory settings > 10 years (EEPROM) Logbook, statistics, records > 1 year (lithium battery) Measurement recorder SmartMedia™
Module slots	3
Power supply	24 (-15 %) ... 230 (+15 %) V AC/DC: approx. 10 VA, frequency at AC 45 ... 65 Hz Overvoltage category II Protection class I Pollution degree 2 (EN 61010-1) Wire cross-section 2.5 mm ²
Protection against electrical shock	Protective separation of all extra-low voltages against mains according to EN 61010-1
Input OK 1	Galv. isolated (OPTO coupler) Function Switches the device to HOLD mode (function check) Switching voltage 0 ... 2 V AC/DC inactive; 10 ... 30 V AC/DC active

Input OK 2	Galv. isolated (OPTO coupler)	
	Function	START/STOP AI recorder, switchover to second parameter set
	Switching voltage	0 ... 2 V AC/DC inactive; 10 ... 30 V AC/DC active
Current output I1	0/4 ... 20 mA, (22 mA) max. 10 V, galv. isolated (with output I2 galvanically connected)	
	Load monitoring	Error message if load is exceeded
	Ovrange*)	22 mA in the case of messages
	Measurement error 1)	< 0.25 % of current value +0.05 mA
	Current source	0.00 ... 22.00 mA
Current output I2	0/4 ... 20 mA, (22 mA) max. 10 V, galv. isolated (with output I1 galvanically connected)	
	Load monitoring	Error message if load is exceeded
	Ovrange*)	22 mA in the case of messages
	Measurement error 1)	< 0.25 % of current value +0.05 mA
	Current source	0.00 ... 22.00 mA
Switching contacts*)	4 relay contacts K1 ... K4, floating/ K1, K2, K3 are connected on one side	
	Loadability	AC <30 V/<3 A, 90 VA; DC <30 V/<3 A, 90VA
	Usage*)	K1– K3, user definable as NAMUR maintenance request, function check, limit values, parameter set 2 active, rinsing contact, USP contact, K4 permanently set as alarm contact (NAMUR failure)
EMC	NAMUR NE 21 and EN 61326 VDE 0843 Part 20/2002 - 03	
	Emitted interference	Class B
	Immunity to interference	Industry
Lightning protection	EN 61000-4-5, Installation class 2	
Nominal operating conditions	Ambient temperature	-20 ... +55 °C (-4 ... +131 °F)
	Relative humidity	10 ... 95 % not condensing
Transport/storage temperature	-20 ... +70 °C (-4 ... +158 °F)	
Enclosure	M 700 S	Stainless steel, polished, 1.4305
	M 700 C	Stainless steel, coated
	Assembly	Wall mounting/pipe mounting/panel mounting, sealed against panel
	Dimensions	See dimension drawing
	Protection	IP 65/NEMA 4 X
	Cable glands	5 pcs M20 x 1.5
	Weight	Approx. 3.2 kg plus approx. 150 g per module

*) user-defined

1) according to IEC 746 Part 1, at nominal operating conditions

Specifications

Transmitter M 700 XC and M 700XS

Power supply (EEx)	100 (-15 %) ... 230 (+10 %) V AC	< 15 VA, 48 ... 62 Hz
	or	
	24 V AC/DC	AC 24 V (-15 %, +10 %) < 15 VA, 48 ... 62 Hz DC 24 V (-15 %, +20 %) < 8 W
	Overvoltage category	II
	Protection class	I
	Pollution degree	2 (EN 61010-1)
	Wire cross-section	2.5 mm ²
Ground wire connection	2.5 mm ² , screw M4 (EN 61010-1, 6.5.1.2)	
Input OK 1 (EEx ib IIC)	Galvanically isolated (OPTO coupler)	
	Galvanic isolation up to 60 V	
	Protective separation through	double insulation in accordance to DIN EN 61010-1
	Function	Switches the device to HOLD mode (function check)
	Switching voltage	Inactive 0 ... 2 V AC/DC Active 10 ... 30 V AC/DC V _I = 30 V
Input OK 2 (EEx ib IIC)	Galvanically isolated (OPTO coupler)	
	Galvanic isolation up to 60 V	
	Protective separation through	double insulation in accordance to EN 61010-1
	Function	START/STOP KI recorder, switchover to second parameter set
	Switching voltage	Inactive 0 ... 2 V AC/DC Active 10 ... 30 V AC/DC V _I = 30 V
Current output I1 (EEx ib IIC)	0/4 ... 20 mA, (22 mA) max. 10 V, galvanically isolated (with output I2 galvanically connected)	
	Galvanic isolation up to 60 V	
	Protective separation due to double insulation according to EN 61010-1	
		V _O = 17 V I _O = 90 mA P _O = 400 mW
	Load monitoring	Error message if load is exceeded
	Overrange*)	22 mA in the case of messages
	Measurement error ¹⁾	< 0.25 % of current value +0.05 mA
Current source	0.00 ... 22.00 mA	

*) user-defined

1) according to IEC 746 Part 1, at nominal operating conditions

<p>Current output I2 (EEx ib IIC)</p>	<p>0/4 ... 20 mA, (22 mA) max. 10 V, galvanically isolated (with output I1 galvanically connected) Galvanic isolation up to 60 V Protective separation due to double insulation according to EN 61010-1 $V_0 = 17\text{ V}$ $I_0 = 90\text{ mA}$ $P_0 = 400\text{ mW}$</p> <p>Load monitoring Error message if load is exceeded Overrange*) 22 mA with messages Measurement error¹⁾ < 0.25 % of current value +0.05 mA Current source 0.00 ... 22.00 mA</p>
<p>Switching contacts*) (EEx ib IIC)</p>	<p>4 relay contacts K1 ... K4, floating / K1, K2, K3 connected on one side Galvanic isolation to 60 V Protective separation due to double insulation according to EN 61010-1 $V_I = 30\text{ V}$ $I_I = 500\text{ mA}$ $P_I = 10\text{ W}$</p> <p>Loadability AC <30 V/<3 A, 90 VA DC <30 V/<3 A, 90 VA</p> <p>Usage*) K1– K3, user definable as NAMUR maintenance request/ function check, limit values, parameter set 2 active, rinsing contact, USP contact, K4 permanently set as alarm contact (NAMUR failure)</p>
<p>Explosion protection</p>	<p>ATEX II 2(1) G EEx ib [ia] IIC T4 FM Class I Div 2 (pending)</p>

*) user-defined
 1) according to IEC 746 Part 1, at nominal operating conditions

pH/ORP input**) (EEx ia IIC)	Simultaneous measurement of pH and ORP		
	Input glass electrode or ISFET		
	Input reference electrode		
	Input redox electrode (ORP) or aux. electrode		
	Measurement range (MR)	pH value	-2.00 ... +16.00
		ORP value	-2000 ... +2000 mV
		rH value	0.0 ... 42.5
	Permissible voltage	ORP + pH [mV]	2000 mV
	Permissible cable capacitance	< 2 nF	
	Glass electrode input ¹⁾	Input resistance	> 1 x 10 ¹² Ω
		Input current ⁴⁾	< 1 x 10 ⁻¹⁰ A
		Impedance range	0.5 ... 1000 MΩ
	Reference electrode input ¹⁾	Input resistance	> 1 x 10 ¹⁰ Ω
Input current ⁴⁾		< 1 x 10 ⁻¹² A	
Impedance range		0.5 ... 200 kΩ	
Measurement error ^{1,2,3)} (display)	pH value	< 0.02 TC: 0.001 pH/K	
	ORP value	< 1 mV TC: 0.05 mV/K	
Temperature input*) (EEx ia IIC)	Pt100/Pt1000/NTC 8.55 kΩ/NTC 30 kΩ, 3-wire connection, adjustable		
	Measurement range	-20 ... +150 °C / -4 ... +302 °F (Pt100/Pt1000/NTC 30 kΩ)	
		-10 ... +130 °C / -4 ... +266 °F (NTC 8.55 kΩ, Mitsubishi)	
	Resolution	0.1 °C / 1 °F	
	Measurement error ^{1,2,3)}	0.2 % meas. val. + 0.5 K (< 1 K at NTC > 100 °C)	
Temperature compensation (media dependent)	Reference temperature 25 °C		
	- Linear temperature coefficient, user-defined -19.99 ... +19.99 %/K		
	- Ultrapure water 0 ... 150 °C		
	- Table 0 ... 95 °C, user-defined in 5 K steps		
Power output	For the operation of an ISFET adapter +3 V/0.5 mA (V ₀ = +2.9 ... +3.1 V / R _i = 360 Ω) -3 V/0.5 mA (V ₀ = -3.5 ... -3.0 V / R _i = 360 Ω)		
ORP*)	Automatic conversion to standard hydrogen electrode SHE when type of reference electrode is entered ORP calibration*) Zero adjustment -200 ... +200 mV		
Sensocheck	Automatic monitoring of glass and reference electrode		

*) user-defined

**) pH/ORP input, ISFET supply voltage, temperature input galvanically connected, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ia IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operating conditions

2) ± 1 count

3) plus sensor error

4) at 20 °C, doubles every 10 K

Sensor monitor	Direct display of measured values from sensor for validation pH input/ORP input/glass electrode impedance/ reference electrode impedance/temperature	
ServiceScope	Noise level monitoring of the pH input signal, representation on display	
Sensoface	Provides information on the sensor condition: Zero point/slope, response time, calibration interval, Sensoscheck, CalCheck	
Adaptive calibration timer*)	Automatic adjustment of the calibration interval (Sensoface information) dependent on the process variables	
Sensor network diagram	Graphic representation of the current sensor parameters in a network diagram on the display: slope, zero point, reference impedance, glass impedance, response time, calibration timer, deviation from calibration range (CalCheck)	
CalCheck	Checks the distance between calibration buffers and measured values. German patent DE 195 36 315 C2	
Tolerance band recorder	Records zero point and slope of the electrode and the selected tolerance bands, graphical presentation on the display	
Sensor standardization*)	Operating modes	<ul style="list-style-type: none"> – 1-point calibration – 2-point calibration – 3-point calibration (best fit line) – Calimatic automatic buffer recognition – Input of individual buffer values – Product calibration – Data entry of pre-measured electrodes – Zero point offset ISFET
	Drift check	Fine/standard/coarse, adjustable
	Calimatic buffer sets*)	<ul style="list-style-type: none"> – Fixed buffer sets: <ul style="list-style-type: none"> 1 METTLER TOLEDO: 2.00/4.01/7.00/9.21 2 Merck/Riedel: 2.00/4.00/7.00/9.00/12.00 3 DIN 19267: 1.09/4.65/6.79/9.23/12.75 4 NIST Standard: 4.006/6.865/9.180 5 Technical buffers to NIST: 1.68/4.00/7.00/10.01/12.46 – Manually selectable buffer set with max. three buffer tables (with option SW 700-002)
	Nom. zero point*)	pH 0 ... 14, admissible span $\Delta\text{pH} = \pm 1$
	Nom. slope*)	25 ... 61 mV/pH (25 °C), admissible span 80 ... 103 %
	Zero point offset V_{is} *)	–200 ... +200 mV (for ISFET) –1000 ... +1000 mV
	Calibration protocol/statistics	Recording of: Zero point, slope, V_{is} , response time, calibration process with date statistics and time of the last three calibrations and the first calibration

*) user-defined

O₂ input**) (EEx ia IIC)	For METTLER TOLEDO sensors InPro 6800, InPro 6900 series	
	Measuring current (sensor)	0 ... 1800 nA, resolution 30 pA
	Saturation (−10 ... +80 °C)	0.0 ... 199.9 / 200 ... 600 % Air 0.0 ... 29.9 / 30 ... 120 % O ₂
	Measurement error ^{1,2,3)}	< 0.5 % meas. val. + 0.5 %
	Concentration (−10 ... +80 °C)	0.00 ... 90.00 mg/l 0.00 ... 90.00 ppm
	Measurement error ^{1,2,3)}	< 0.5 % meas. val. + 0.05 mg/l or 0.05 ppm
	Polarization voltage	0 ... −1000 mV (default setting −675 mV)
	Partial pressure	0 ... 2000 mbar
	Barometric pressure	700 ... 1100 mbar, manual: 0 ... 9999 mbar
	Salt correction	0.0 ... 45.0 g/kg
	Admissible guard current	≤ 20 µA
	Reference voltage	± 500 mV (voltage across ref connection and anode)
	Measurement in gases	0 ... 2000 mbar
0 ... 9999 ppm		
0.00 ... 29.9/30.0 ... 120.0 Vol% (display only)		
0.00 ... 120.0 Vol% (current, limit values)		
(1 Vol% = 10,000 ppm)		
Current start/end		As desired within range
Calibration methods		Automatic-Air
	Product calibration (select ppm or Vol%)	
	Data entry	
	Zero correction	
Temperature input**) (EEx ia IIC)	Temperature probe*)	NTC 22 kΩ/NTC 30 kΩ, 2-wire connection, adjustable
	Measurement range	−20 ... +150 °C/−4 ... 302 °F
	Resolution	0.1 °C/1 °F
	Measurement error ^{1,2,3)}	0.2% meas. val. + 0.5 K
Sensor monitoring*)	Sensocheck, monitoring of membrane and electrolyte	
Sensoface	Provides information on the sensor condition: Zero/slope, response time, cal timer, Sensocheck	
Sensor network diagram	Graphic representation of the current sensor parameters in a network diagram on the display: Slope, zero point, response time, calibration timer, Sensocheck	
Sensor monitor	Direct display of measured values from sensor for validation: Sensor current/barometric pressure/temperature	

*) user-defined

**) O₂ input galvanically connected with temperature input, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ia IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operation condition

2) ±1 count

3) plus sensor error

Sensor standardization *)	Operating modes	<ul style="list-style-type: none">– Automatic calibration in air– Automatic calibration in air-saturated water– Product calibration saturation– Product calibration concentration– Data input zero point/slope– Zero point calibration
	Calibration protocol/ statistics	Recording of: Zero, slope, response time, calibration method with date and time of the last three calibrations and the first calibration

Output curves *)	<ul style="list-style-type: none">– Linear– Trilinear– Function
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*) user-defined

O₂ input**) (EEx ia IIC)	For the METTLER TOLEDO sensors InPro 6900, InPro 6800 series	
	Measuring current (sensor)	0 ... 600 nA, resolution 10 pA
	Saturation	0.0 ... 199.9 % Air
	(-10 ... +80 °C)	0.0 ... 29.9 % O ₂
	Measurement error ^{1,2,3)}	<0.5 % meas. val. + 0.1 %
	Concentration	0000 ... 9999 µg/l (Overrange up to 19.99 mg/l)
	(-10 ... +80 °C)	0000 ... 9999 ppb (Overrange up to 19.99 ppm)
	Measurement error ^{1,2,3)}	<0.5 % meas. val. + 0.005 mg/l or 0.005 ppm
	Polarization voltage	0 ... -1000 mV (default setting -675 mV)
	Partial pressure	0 ... 2000 mbar
	Barometric pressure	700 ... 1100 mbar, manual: 0 ... 9999 mbar
	Salt correction	0.0 ... 45.0 g/kg
	Admissible guard current	≤ 20 µA
	Reference voltage	± 500 mV (voltage across ref connection and anode)
Measurement in gases	0 ... 2000 mbar 0 ... 9999 ppm 0.00 ... 29.9/30.0 ... 120.0 Vol% (display only) 0.00 ... 120.0 Vol% (current, limit values) (1 Vol% = 10,000 ppm)	
Current start/end	As desired within range	
Calibration methods	Automatic-Air	with the following default settings: rh = 50 %, p 0 measured barometric pressure, calibration medium air (dry air = 20.95 %)
	Product calibration (select ppm or Vol%)	
	Data entry	
	Zero correction	
Temperature input**) (EEx ia IIC)	Temperature probe*)	NTC 22 kΩ / NTC 30 kΩ, 2-wire connection, adjustable
	Measurement range	-20 ... +150 °C / -4 ... +302 °F
	Resolution	0.1 °C
	Measurement error ^{1,2,3)}	0.2 % meas. val. + 0.5 K
Sensor monitoring*)	Sensocheck, monitoring of membrane and electrolyte (Sensocheck disabled for sensors with Guard)	
Sensoface	Provides information on the sensor condition: Zero/slope, response time, cal timer, Sensocheck	
Sensor network diagram	Graphic representation of the current sensor parameters in a network diagram on the display: Slope, zero point, response time, calibration timer, Sensocheck	
Sensor monitor	Direct display of measured values from sensor for validation: Sensor current/barometric pressure/temperature	

*) user-defined

**) O₂ input galvanically connected with temperature input, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ia IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operation condition

2) ±1 count

3) plus sensor error

Sensor standardization *)	Operating modes	<ul style="list-style-type: none"> – Automatic calibration in air – Automatic calibration in air-saturated water – Product calibration saturation – Product calibration concentration – Data input zero/slope – Zero point calibration
	Calibration protocol/ statistics	Recording of: Zero, slope, response time, calibration method with date and time of the last three calibrations and the first calibration
Output curves *)	<ul style="list-style-type: none"> – Linear – Trilinear – Function 	

*) user-defined

O₂ input **)
(EEx ia IIC)

For the METTLER TOLEDO sensors InPro 6900, InPro 6950 series

Saturation	0.0 ... 150% Air
(-10 .. 80°C)	0.0 ... 30% O ₂
Concentration dissolved	000,0 ... 9999 µg/l
Oxygen	10 ... 19.99 mg/l
(-10..80°C)	000.0 ... 9999 ppb
	10 ... 19.99 ppm
Concentration gas	00.0 ... 9999 ppm
	1.000 ... 50.00 Vol %
Partial pressure	0.00 ... 500.0 mbar
Barometric pressure	700 ... 1100 mbar
	manual: 0 ... 9999 mbar
	external: 0 ... 9999 mbar
	via bus: 0 ... 9999 mbar
Salt correction	0.0 ... 45.0 g/kg
Current Input range	
- InPro6800/6900	Current 0 ... 600 nA, Resolution 10 pA
Measurement Error 1,2,3)	<0.5% meas. val. + 0.05 nA + 0.005 nA/K
- InPro6950	Current 0 ... 10000 nA, Resolution 166 pA
Measurement Error 1,2,3)	<0.5% meas. val. + 0.8 nA + 0.08 nA/K
Polarization voltage	0 ... -1000 mV (default setting -675 mV), Resolution 5 mV
Admissible guard current	<= 20 µA

Temperature input **)
(EEx ia IIC)

Temperature probe*)	NTC 22 kΩ / NTC 30 kΩ, 2-wire connection, adjustable
Measurement range	-20 ... +150 °C / -4 ... +302 °F
Resolution	0.1 °C
Measurement error 1,2,3)	0.2% meas. val. + 0.5 K (< 1K at T > 100°C)

Sensor monitoring *)

Sensocheck, monitoring of membrane and electrolyte
(Sensocheck disabled for sensors with Guard)

Sensoface

Provides information on the sensor condition: Zero / slope, response time, cal timer, Sensocheck, Wear (ISM)

Sensor network diagram

Graphic representation of the current sensor parameters in a network diagram on the diagram display: Slope, zero point, response time, calibration timer, Sensocheck

Sensor monitor

Direct display of measured values from sensor for validation: Sensor current/barometric pressure/temperature/I-Input

ISM (Intelligent Sensor Management)

Display of wear parameters:	<ul style="list-style-type: none"> - Sensor wear - Sensor operating time - Autoclave cycles - SIP Cycles - CIP Cycles
Calibration protocol/statistics:	Recording of: zero, slope, response time, calibration method with date and time of the last three calibrations and the first calibration

Sensor standardization *)	Operating modes: – Automatic calibration in air – Automatic calibration in air-saturated water – Product calibration saturation – Product calibration concentration – Data input zero/slope – Zero point calibration
Output curves *)	– Linear – Trilinear – Function
Pressure Input	O(4) ... 20 mA for absolute and differential pressure transmitter Pressure range 0 ... 9999 mbar Current range O(4) ... 20 mA/50 Ω Resolution < 1%
Explosion protection	
O₂ 4700 X traces	ATEX II 2(1) GD EEx ib [ia] IIC T4 T 70°C
O₂ 4700 traces	FM Class I Div 2

*) user-defined

**) O₂ input galvanically connected with temperature input, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ia IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operation condition

2) ±1 count

3) plus sensor error

Cond input**) (EEx ia IIC)	Operation with 2 or 4-electrode sensors METTLER TOLEDO InPro 7000, InPro 7100 families		
	Conductivity	0.000 µS ... +1999 mS/cm	
	Resistivity	0.5 Ω cm ... 999 MΩ cm	
	Concentration	0.0 ... 100.0 % by wt	
	Salinity	0.0 ... 45.0 g/kg (0 ... 35 °C)	
	Measurement range	4-el sensors: 0.1 µS x c ... 2000 mS x c ⁴⁾ 2-el sensors: 0.1 µS x c ... 200 mS x c ⁴⁾	
	Display range	Resolution depending on cell constant	
		Cell constant	Resolution of conductivity
		< 0.1200 cm ⁻¹	0.000 µS/cm
		< 1.200 cm ⁻¹	00.00 µS/cm
< 12.00 cm ⁻¹		000.0 µS/cm	
	< 120.0 cm ⁻¹	0.000 mS/cm	
	≥ 120.0 cm ⁻¹	00.00 mS/cm	
	Measurement error ^{1,2,3)}	< 0.5 % meas. val. + 0.2 µS x c ^{4,7)}	
Temperature input**) (EEx ia IIC)	Pt100/Pt1000/Ni 100/NTC 30 kΩ		
	3-wire connection, adjustable		
	Measurement range	Pt100/Pt1000: -50 ... +250 °C/-58 ... +482 °F Ni 100: -50 ... 180 °C/-58 ... +356 °F NTC 30 kΩ: -20 ... +150 °C/-4 ... +302 °F	
	Resolution	0.1 °C/1 °F	
	Measurement error ^{1,2,3)}	0.2 % meas. val. + 0.5 K	
Temperature compensation*)	– Without		
	– Linear characteristic 00.00 ... 19.99 %/K (reference temp user-defined)		
	– Non-linear characteristic for natural water according to EN 27888 (reference temp 25 °C)		
	– Ultrapure water with NaCl traces 0 ... 120 °C (reference temp 25 °C)		
	– Ultrapure water with HCl traces 0 ... 120 °C (reference temp 25 °C)		
	– Ultrapure water with NH ₃ traces 0 ... 120 °C (reference temp 25 °C)		
– Ultrapure water with NaOH traces 0 ... 120 °C (reference temp 25 °C)			

*) user-defined

**) COND input galvanically connected with temperature input, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ia IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operation condition

2) ±1 count

3) plus sensor error

4) cell constant c = 0.0050 ... 199.99 cm⁻¹

7) range limits for conductivity at 25 °C > 500 mS x c: < 1 % of meas. val.

Concentration determination *)	For the substances:		
	HNO ₃	0 ... 30 % by weight -20 ... +50 °C 35 ... 96 % by weight -20 ... +50 °C	
	HCl	0 ... 18 % by weight -20 ... +50 °C 22 ... 39 % by weight -20 ... +50 °C	
	H ₂ SO ₄ ⁵⁾	0 ... 30 % by weight -17.8 ... +110 °C 32 ... 84 % by weight -17.8 ... +115.6 °C 92 ... 99 % by weight -17.8 ... +115.6 °C	
	NaOH ⁶⁾	0 ... 14 % by weight 0 ... +100 °C 18 ... 50 % by weight 0 ... +100 °C	
	NaCl	0 ... 26 % by weight 0 ... +60 °C	
	User-defined concentration chart (5 x 5 x 5 values)		
	<hr/>		
	Sensor monitoring *)	Sensocheck, polarization detection and monitoring of the cable capacitance	
	<hr/>		
Sensoface	Provides information on the sensor condition		
<hr/>			
Sensor monitor *)	Display of the direct sensor values for validation: resistance/conductance/temperature		
<hr/>			
Sensor standardization *)	Operating modes:	<ul style="list-style-type: none"> - Automatic calibration with NaCl or KCl solution - Manual: Entry of conductivity - Product calibration/adjustment to vessel (fitting) - Entry of cell constant with simultaneous display of conductivity and temperature 	
	Admissible cell constant	0.0050 ... 199.99 cm ⁻¹	
	Calibration record	Recording of: Cell constant, calibration method, with date and time	
<hr/>			
Output curves *)	<ul style="list-style-type: none"> - Linear - Trilinear - Function - As desired using table 		
<hr/>			
USP function	Water monitoring in the pharmaceutical industry (USP) with additional user-defined limit value (%), output via relay contact (K1 ... K3, M 700 base unit) possible		
<hr/>			

*) user-defined
5) the range limits apply for 27 °C
6) the range limits apply for 25 °C

Input Cond Ind **) (EEx ia IIC)	Input for inductive sensors METTLER TOLEDO InPro 72XX family		
	Ranges	0000 µS/cm ... 1999 mS/cm, resolution 1 µS/cm	
	Concentration	0.0 ... 100.0 % by wt	
	Salinity	0.0 ... 45.0 g/kg (0 ... 35 °C)	
	Measurement error ^{1,2,3)}	< 0.5 % meas. val. +2 µS/cm	
	Admissible cable length	max. 20 m	
Temperature input **) (EEx ia IIC)	Pt100/Pt1000/NTC 30 kΩ/NTC 100 kΩ*), 3-wire connection, adjustable		
	Measurement range	Pt100/Pt1000: -50 ... +250 °C/-58 ... +482 °F NTC 30 kΩ, NTC 100 kΩ: -10 ... +150 °C/+14 ... +302 °F	
	Resolution	0.1 °C/1 °F	
	Measurement error ^{1,2,3,4)}	0.2 % meas. val. + 0.5 K	
Temperature compensation *)	– Without – Linear characteristic 00.00 ... 19.99 %/K (reference temp user-defined) – Non-linear characteristic natural water according to EN 27888 (reference temperature 25 °C)		
Concentration determination *)	HNO ₃	0 ... 30 % by weight 35 ... 96 % by weight	-20 ... +50 °C -20 ... +50 °C
	HCl	0 ... 18 % by weight 22 ... 39 % by weight	-20 ... +50 °C -20 ... +50 °C
	H ₂ SO ₄ ⁵⁾	0 ... 30 % by weight 32 ... 84 % by weight 92 ... 99 % by weight	-17.8 ... +110 °C -17.8 ... +115.6 °C -17.8 ... +115.6 °C
	NaOH ⁶⁾	0 ... 14 % by weight 18 ... 50 % by weight	0 ... +100 °C 0 ... +100 °C
	NaCl	0 ... 26 % by weight	0 ... +60 °C
	User-defined concentration chart (5 x 5 x 5 values)		
Sensor monitoring *)	SensoCheck, monitoring of primary coil and its lines for short circuit and secondary coil for open circuit, monitoring of the Sensocheck loop (GainCheck) with suitable sensors		
Sensoface	Provides information on the sensor condition		

*) user-defined

**) COND Ind input galvanically connected with temperature input, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ia IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operation condition

2) ±1 count

3) plus sensor error

4) for NTC > 100 °C; 2 % meas. value + 1 K

5) the range limits apply for 27 °C

6) the range limits apply for 25 °C

Sensor standardization *)	Operating modes:	– Automatic calibration with NaCl or KCl solution – Manual: Entry of cal solution – Product calibration / adjustment to vessel – Adjustment of zero point – Adjustment of transfer ratio
	Permissible cell factor	0.000 ... 19.99 cm ⁻¹
	Adm. transfer ratio	0.00 ... 199.9
	Calibration record	Recording of: cell factor, transfer ratio, zero point, calibration process with date and time

Output curves *)	– Linear
	– Trilinear
	– Function
	– As desired using table

*) user-defined

Current output I3, **) passive (EEx ib IIC)	0/4 ... 20 mA, (22 mA), floating (galvanically connected to output I4)
	Supply voltage 3 ... 30 V (e. g. isolated transmitter supply)
	Load monitoring Error message if load is exceeded
	Overrange*) 22 mA with messages
	Measuring error ¹⁾ <0.25 % of current value +0.05 mA
	Start/end of scale*) As desired within range
	Current source 0.00 ... 22.00 mA

Current output I4, **) passive (EEx ib IIC)	0/4 ... 20 mA, (22 mA), floating (galvanically connected to output I3)
	Supply voltage 3 ... 30 V (e. g. isolated transmitter supply)
	Load monitoring Error message if load is exceeded
	Overrange*) 22 mA with messages
	Measuring error ¹⁾ <0.25 % of current value +0.05 mA
	Start/end of scale*) As desired within range
	Current source 0.00 ... 22.00 mA

Switching outputs K5–K8 **) (EEx ib IIC)	4 electronic relay outputs, passive, polarized, floating, interconnected
	Voltage drop < 1.2 V
	Loadability DC: $V_{max} = 30 \text{ V}$, $I_{max} = 100 \text{ mA}$

*) user-defined

**) Current outputs I3, I4 and switching outputs K5–K8 galvanically isolated up to 60 V against each other and against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ib IIC: galvanic isolation up to 60 V.

1) according to IEC 746 Part 1, at nominal operating conditions

Analog controller output**) IV1/IV2 (EEx ib IIC)	0/4 ... 20 mA, passive (IV1 /IV2 galvanically connected)	
	Supply voltage	3 ... 30 V (e. g. isolated transmitter supply), $I_{max} = 100 \text{ mA}$
	Load monitoring	Error message if load is exceeded
	Overrange*)	22 mA with messages
	Measuring error ¹⁾	<0.25 % of current value +0.05 mA
	Use	Actuation of analog control valves or mixing valve
Digital controller output**) KV1/KV2 (EEx ib IIC)	Electronic relay outputs, polarized, floating (connected to each other and to output K9/K10)	
	Voltage drop	<1.2 V
	Loadability	DC: $V_{max} = 30 \text{ V}$, $I_{max} = 100 \text{ mA}$
	Use	Actuation of straightway valves or metering pumps
PID process controller	Continuous controller via the current outputs IV1, IV2 or quasi-continuous controller via the KV1, KV2 relay outputs	
	Controlled variable*)	Freely selectable, depending on the measuring modules installed (primary variables only: pH, ORP, °C, S/cm, %, O ₂ , % Air)
	Setpoint specification*)	As desired within range
	Neutral zone*)	As desired within range
	P-action*)	Controller gain Kp: 0010 ... 9999 %
	I-action*)	Reset time Tr: 0000 ... 9999 s (0000 s = no integral action)
	D-action*)	Rate time Td: 0000 ... 9999 s (0000 s = no derivative action)
	Pulse length controller*)	0001 ... 0600 s, min. ON time 0.5 s
	Pulse frequency controller*)	0001 ... 0180 min ⁻¹
	Response with FCT check*)	Controller output Y = const. or controller output Y = 0 (HOLD)
	Man. controller output	Manual specification for testing or starting up a bumpless changeover to automatic if I-action ≠ 0000 s
	Pulse periode	0001 s (pulse length controller)
	Switching output**) K9/K10 (EEx ib IIC)	Electronic relay outputs, polarized, floating (connected to each other and to KV1/KV2)
Voltage drop		<1.2 V
Loadability		DC: $V_{max} = 30 \text{ V}$, $I_{max} = 100 \text{ mA}$
Use		Limit monitoring or pre-control (3-point controller), process variable, threshold, hysteresis, contact type (N/C, N/O), switch on/switch off delay definable as desired

*) user-defined

**) Analog controller output IV1 /IV2, digital controller output KV1 /KV2 and switching output K9/K10 galvanically isolated up to 60 V against each other and against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). EEx ib IIC: galvanic isolation up to 60 V.

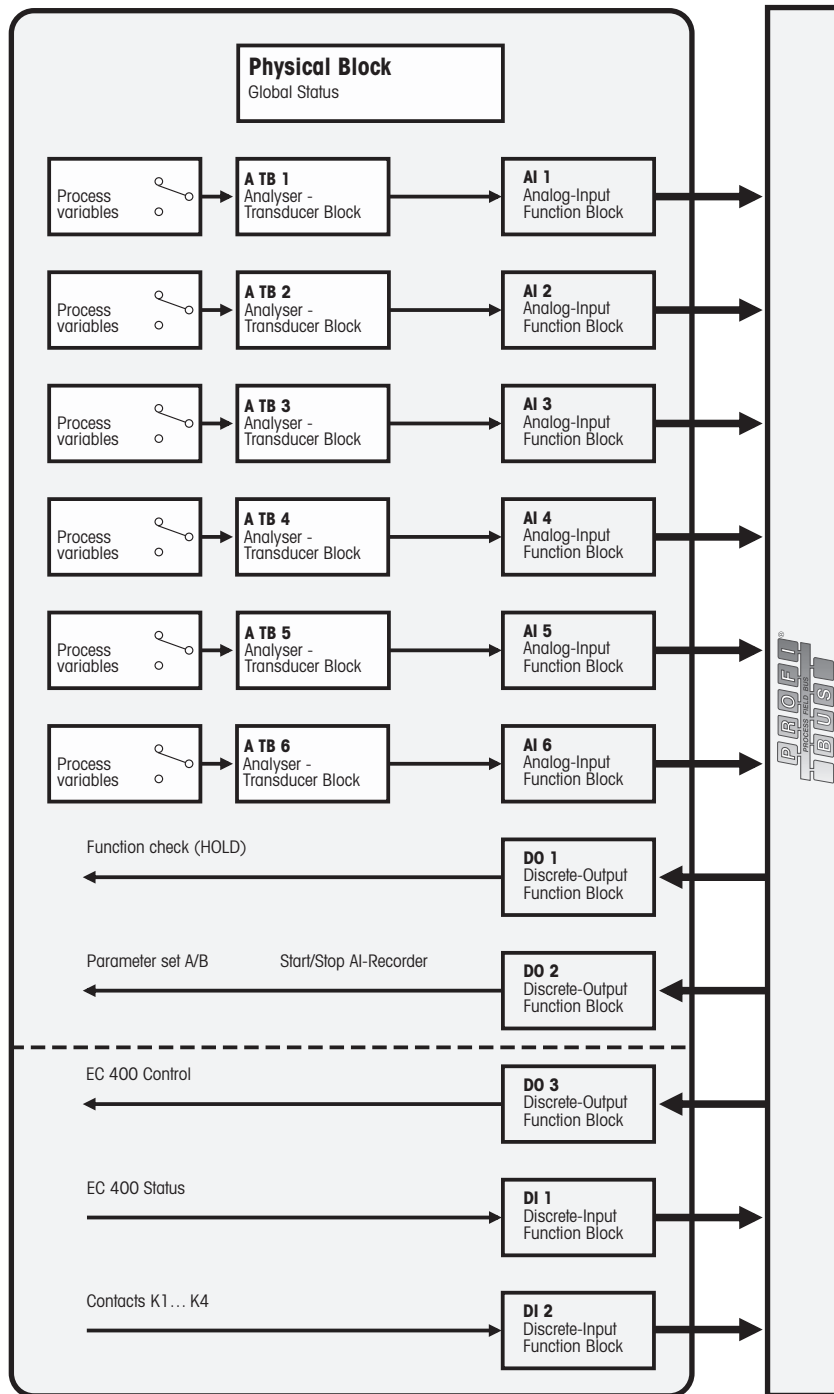
1) according to IEC 746 Part 1, at nominal operating conditions

PROFIBUS PA *) (EEx ia IIC)	Digital communication in hazardous locations via current modulation	
	Physical interface	MBP-IS ¹⁾ (according to EN 61158-2), for use in a FISCO system
	Transfer rate	31.25 kBit /S
	Communication protocol	PROFIBUS DP-V1
	Profile	PROFIBUS PA 3.0
	Address range	1 ... 126, factory setting 126, can be set on device
	Supply voltage	FISCO ≤ 17.5 V (trapezoidal or rectangular characteristic) ≤ 24 V (linear characteristic)
	Current consumption	< 12 mA
	Max. current in case of fault (FDE)	< 15 mA

*) galvanic isolation up to 60 V

1) MBP-IS = Manchester Bus Powered – Intrinsic Safety

EMC	NAMUR NE 21 and	
	EN 61326	VDE 0843 Part 20/01.98
	EN 61326/A1	VDE 0843 Part 20/A1/05.99
	Emitted interference	Class B
	Immunity to interference	Industrial sector
<hr/>		
Lightning protection	EN 61000-4-5, Installation class 2	
<hr/>		
Nominal operating conditions	Ambient temperature	-20...+55 °C (Ex: max. +50 °C)
	Relative humidity	10 to 95 % not condensing
<hr/>		
Transport/ Storage temperature	-20...+70 °C/-4...+158 °F	
<hr/>		
Terminals	Single wires and flexible leads up to 2.5 mm ² (AWG 14)	
<hr/>		
Explosion protection	ATEX II 2(1) GD EEx ib[ia] IIC T4 FM Classic I Div 2 (pending)	
<hr/>		



Measuring module pH 2700(X)

METTLER TOLEDO M 700 Module														00000									
Type pH 2700 (X)		pH										Tamb: -20 to +55 °C		6616170000000									
No.		pH / ORP / °C										Made in Germany		6616170000000									
www.mt.com/pro																			6616170000000				
measure el.			reference el.					reference el.			SG		+3V	-3V	shield	RTD	RTD	temp		sense			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19					

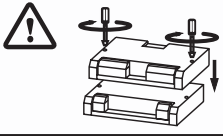
Measuring module Cond 7700(X)

METTLER TOLEDO M 700 Module														00000									
Type COND 7700 (X)		COND										Tamb: -20 to +55 °C		5980270000000									
No.		Conductivity / °C										Made in Germany		5980270000000									
www.mt.com/pro																			5980270000000				
			gnd					shield	RTD	RTD	temp		sense										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19					

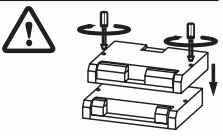
Measuring module Cond Ind 7700(X)

METTLER TOLEDO M 700 Module														00000									
Type COND IND 7700(X)		COND IND										Tamb: -20 to +55 °C		5980270000000									
No.		Conductivity / °C										Made in Germany		5980270000000									
www.mt.com/pro																			5980270000000				
receive hi	receive lo	shield	send lo	send hi	shield	SensLoop	shield	RTD	RTD	temp		sense											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19					

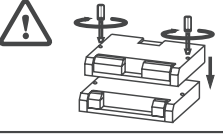
Measuring module O₂ 4700(X)

METTLER TOLEDO M 700 Module		CE	
Type O ₂ 4700 (X)	O ₂ O ₂ / °C	Tamb: -20 to +55 °C Made in Germany	
No.		www.mt.com/pro	
www.mt.com/pro			
		58902/0000000	
		00000	
		temp	
cathode	anode	anode	reference
guard	shield	RTD	RTD
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	

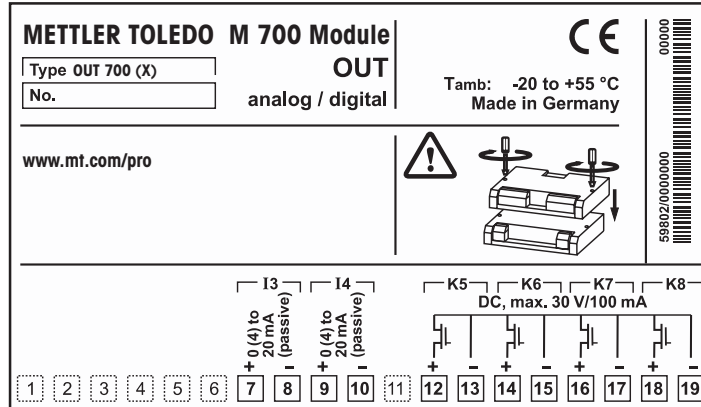
Measuring module O₂ 4700(X) ppb

METTLER TOLEDO M 700 Module		CE	
Type O ₂ 4700 (X) ppb	O ₂ O ₂ / °C	Tamb: -20 to +55 °C Made in Germany	
No.		www.mt.com/pro	
www.mt.com/pro			
		58902/0000000	
		00000	
		temp	
cathode	anode	anode	reference
guard	shield	RTD	RTD
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	

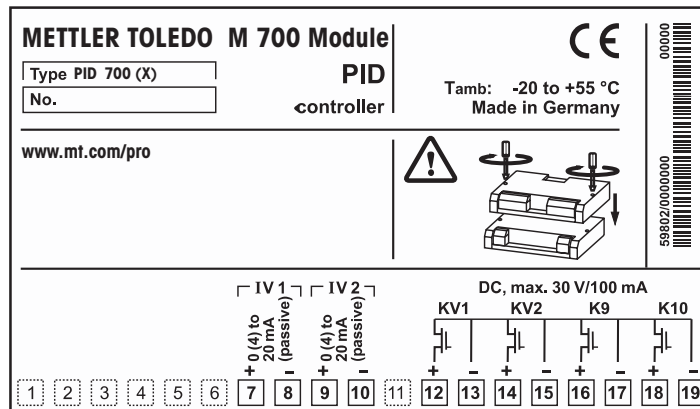
Measuring module O₂ 4700(X) traces

METTLER TOLEDO M 700X Module		Ex CE	
Type O ₂ 4700i X traces	ISM O ₂ O ₂ / °C	Tamb: -20 to +50 °C Made in Germany	
No.		www.mt.com/pro	
KEMA 04 ATEX 2056 II 2(1) GD EEx ib [ia] IIC T4 T 70 °C Electrical data see EC-Type Examination Certificate CH-8902 Urdorf Switzerland			
		00000/0000000	
		00000	
		input	
Oxy sensor		reference	temp
cathode	anode	guard / RTD	shield
guard	shield	DGND	data
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	

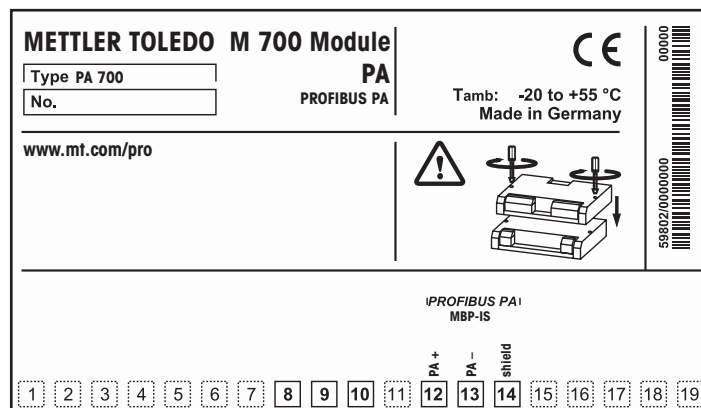
Output module OUT 700(X)



Controller module PID 700(X)



Profibus module PA 700(X)



Article	Designation	Order no.
Transmitter base		
Transmitter base, coated	M 700C	52 121 171
Transmitter base, coated Ex VPW*	M 700 X C/VPW	52 121 172
Transmitter base, coated Ex 24V	M 700 X C/24V	52 121 173
Transmitter base, stainless steel	M 700 S	52 121 174
Transmitter base, stainless steel Ex VPW*	M 700 X S/VPW	52 121 175
Transmitter base, stainless steel Ex 24V	M 700 X S/24V	52 121 176
Communication modules		
Output module	Out 700	52 121 177
Output module Ex	Out 700 X	52 121 178
PID controller	PID 700	52 121 179
PID controller Ex	PID 700 X	52 121 180
Profibus PA	PA 700	52 121 210
Profibus PA Ex	PA 700 X	52 121 181
Measuring modules		
pH module	pH 2700	52 121 182
pH module Ex	pH 2700 X	52 121 183
Conductivity module	Cond 7700	52 121 184
Conductivity module Ex	Cond 7700 X	52 121 185
Inductive conductivity module	Cond Ind 7700	52 121 186
Inductive conductivity module Ex	Cond Ind 7700 X	52 121 187
O ₂ module	O ₂ 4700	52 121 188
O ₂ module Ex	O ₂ 4700 X	52 121 189
O ₂ module ppb	O ₂ 4700 ppb	52 121 190
O ₂ module ppb Ex	O ₂ 4700 X ppb	52 121 191
O ₂ module traces	O ₂ 4700 i traces	52 121 295
O ₂ module traces Ex	O ₂ 4700 i X traces	52 121 294
Mounting options		
Pipe mount kit	ZU 0544	52 121 208
Panel mount kit	ZU 0545	52 121 209
Software options		
SmartMedia™ card	ZU 0543	52 121 207
FDA 21 CFR Part 11 compliance support**	SW 700-107	52 121 196
Audit trail spare card	ZU 0599	52 121 244
5 parameter sets	SW 700-102	52 121 192
Measuring recorder	SW 700-103	52 121 193
Extended logbook	SW 700-104	52 121 194
Software update	SW 700-106	52 121 195
AI recorder (AI = artificial intelligence)	SW 700-001	52 121 198
Configurable buffer sets (pH)	SW 700-002	52 121 199
Adaptive calibration timer (pH)	SW 700-003	52 121 200
ServiceScope (pH)	SW 700-004	52 121 201
Tolerance band recorder (pH)	SW 700-005	52 121 202
Variable output curves	SW 700-006	52 121 203
Temp. compensated ultrapure water (Cond)	SW 700-008	52 121 204
Concentration measurement (Cond / Cond Ind)	SW 700-009	52 121 205
SensoCheck configurable (pH)	SW 700-010	52 121 206
High CO ₂ compensation (O ₂)	SW 700-011	52 121 250

* VPW = VariPoWer

** delivered with audit trail card

Two ways to order a M 700 transmitter

Select a complete, preassembled system out of nine offerings.

The fast and easy way to get a carefully, preassembled M 700 transmitter system for different types of industrial applications. These systems are already equipped with preinstalled software packages and show very attractive prices.

Configure your own system for application specific use.

In case you need a tailor made configuration of your M 700 transmitter, METTLER TOLEDO offers the possibility to set up the desired system.

Article	Designation	Order no.
---------	-------------	-----------

Select a complete, preassembled system out of nine offerings.

The available assembled M 700 systems refer to the most typical applications for some selected industries. Please select the one fitting your needs.

**Pharmaceutical industry /
biotechnology**

Dual channel pH/pH	Package no. 1	52 121 234
Base unit, stainless steel	M 700S	
pH module	pH 2700	
pH module	pH 2700	
Output module	OUT 700	
Measuring recorder	SW 700-103	
Extended logbook	SW 700-104	
Adaptive calibration timer	SW 700-003	
Tolerance band recorder	SW 700-005	
FDA 21 CFR Part 11 compliance support*	SW 700-107	

Dual channel O ₂ /O ₂	Package no. 2	52 121 235
Base unit, stainless steel	M 700S	
O ₂ module	O ₂ 4700	
O ₂ module	O ₂ 4700	
Output module	OUT 700	
Measuring recorder	SW 700-103	
Extended logbook	SW 700-104	
Adaptive calibration timer	SW 700-003	
Tolerance band recorder	SW 700-005	
FDA 21 CFR Part 11 compliance support*	SW 700-107	

Dual channel pH/O ₂	Package no. 3	52 121 236
Base unit, stainless steel	M 700S	
pH module	pH 2700	
O ₂ module	O ₂ 4700	
Output module	OUT 700	
Measuring recorder	SW 700-103	
Extended logbook	SW 700-104	
Adaptive calibration timer	SW 700-003	
Tolerance band recorder	SW 700-005	
FDA 21 CFR Part 11 compliance support*	SW 700-107	

* delivered with audit trail card

	Article	Designation	Order no.
Pharmaceutical/ chemical processes	Dual channel pH/pH	Package no. 4	52 121 234
	Base unit, stainless steel	M 700S	
	pH module	pH 2700	
	pH module	pH 2700	
	Output module	OUT 700	
	Measuring recorder	SW 700-103	
	Extended logbook	SW 700-104	
	Adaptive calibration timer	SW 700-003	
	Tolerance band recorder	SW 700-005	
	FDA 21 CFR Part 11 compliance support*	SW 700-107	
Food & beverage/brewing	Dual channel O₂/O₂	Package no. 5	52 121 237
	Base unit, stainless steel	M 700S	
	O ₂ module	O ₂ 4700 traces	
	O ₂ module	O ₂ 4700 traces	
	Output module	OUT 700	
	Measuring recorder	SW 700-103	
	Extended logbook	SW 700-104	
	Tolerance band recorder	SW 700-005	
	Chemical processes/ Ex and non Ex	Dual channel Ex pH/pH	Package no. 6
Base unit, coated		M 700XC/24 V	
pH module Ex		pH 2700X	
pH module Ex		pH 2700X	
Output module Ex		OUT 700X	
5 loadable parameter sets		SW 700-102	
Measuring recorder		SW 700-103	
Extended logbook		SW 700-104	
Adaptive calibration timer		SW 700-003	
Tolerance band recorder		SW 700-005	
Dual channel Ex pH/Cond		Package no. 7	52 121 239
Base unit, coated		M 700XC/24 V	
pH module Ex		pH 2700X	
Cond module Ex		Cond 7700 X	
Output module Ex		OUT 700X	
5 loadable parameter sets		SW 700-102	
Measuring recorder		SW 700-103	
Extended logbook		SW 700-104	
Adaptive calibration timer	SW 700-003		
Tolerance band recorder	SW 700-005		

* delivered with audit trail card

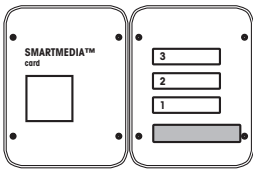
Article	Designation	Order no.
Dual channel non Ex pH/Cond	Package no. 8	52 121 240
Base unit, coated	M 700C	
pH module	pH 2700	
Cond module	Cond 7700	
Output module	OUT 700	
5 loadable parameter sets	SW 700-102	
Measuring recorder	SW 700-103	
Extended logbook	SW 700-104	
Adaptive calibration timer	SW 700-003	
Tolerance band recorder	SW 700-005	
Dual channel non Ex pH/pH	Package no. 9	52 121 242
Base unit, coated	M 700C	
pH module	pH 2700	
pH module	pH 2700	
Output module	OUT 700	
5 loadable parameter sets	SW 700-102	
Measuring recorder	SW 700-103	
Extended logbook	SW 700-104	
Adaptive calibration timer	SW 700-003	
Tolerance band recorder	SW 700-005	

Configure your own system for application specific use.

There are five steps necessary to complete a system.

1. Select the base unit

A base unit consists of an enclosure (six versions available), a SmartMedia™ card, two 4..20 mA outputs and four relay contacts.



Two 4..20mA outputs and four relay contacts fix installed and a SmartMedia™ card.

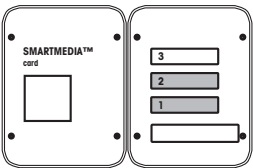
Transmitter base units	Designation	Order no.	<input checked="" type="checkbox"/> My selection
Transmitter base, coated	M 700C	52 121 171	<input type="checkbox"/>
Transmitter base Ex VPW*	M 700XC/VPW	52 121 172	<input type="checkbox"/>
Transmitter base Ex 24V	M 700XC/24V	52 121 173	<input type="checkbox"/>
Transmitter base**	M 700S	52 121 174	<input type="checkbox"/>
Transmitter base** Ex VPW	M 700XS/VPW	52 121 175	<input type="checkbox"/>
Transmitter base** Ex 24V	M 700XS/24V	52 121 176	<input type="checkbox"/>

* VPW = VariPoWer (20 ... 250 V AC for non-Ex; 80 ... 250 V AC for Ex-version), **stainless steel

2. Select the measuring modules

Three slots for module insertion are available. Ideally, two of them are used for measuring modules and one for a communication module. The modules are freely selectable.

Important: If Ex base was selected only Ex modules will be accepted!



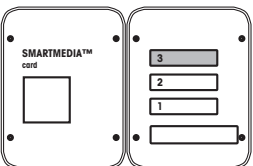
Module slots: choose measuring modules for easy installation.

Measuring modules	Designation	Order no.	<input checked="" type="checkbox"/> My selection
pH module	pH 2700	52 121 182	<input type="checkbox"/>
pH module Ex	pH 2700X	52 121 183	<input type="checkbox"/>
O ₂ module	O ₂ 4700	52 121 188	<input type="checkbox"/>
O ₂ module Ex	O ₂ 4700X	52 121 189	<input type="checkbox"/>
O ₂ module ppb	O ₂ 4700 ppb	52 121 190	<input type="checkbox"/>
O ₂ module ppb Ex	O ₂ 4700 X ppb	52 121 191	<input type="checkbox"/>
O ₂ module traces	O ₂ 4700i traces	52 121 295	<input type="checkbox"/>
O ₂ module traces Ex	O ₂ 4700i X traces	52 121 294	<input type="checkbox"/>
Conductivity module	Cond 7700	52 121 184	<input type="checkbox"/>
Conductivity module Ex	Cond 7700X	52 121 185	<input type="checkbox"/>
Inductive Cond. module	Cond Ind 7700	52 121 186	<input type="checkbox"/>
Inductive Cond. module Ex	Cond Ind 7700X	52 121 187	<input type="checkbox"/>

3. Select the communication module

Use the third slot for a communication module. Select from following list.

Important: If Ex base was selected only Ex modules will be accepted!

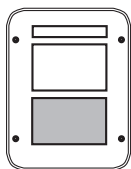


Module slot: choose communication module for installation.

Communication modules	Designation	Order no.	<input checked="" type="checkbox"/> My selection
Output module	Out 700	52 121 177	<input type="checkbox"/>
Output module Ex	Out 700X	52 121 178	<input type="checkbox"/>
PID controller	PID 700	52 121 179	<input type="checkbox"/>
PID controller Ex	PID 700X	52 121 180	<input type="checkbox"/>
Profibus PA	PA 700	52 121 210	<input type="checkbox"/>
Profibus PA Ex	PA 700X	52 121 181	<input type="checkbox"/>

4. Select software options

To activate a software option you need an appropriate code (TAN). For some positions the code will be delivered together with a SmartMedia™ card. Code and cards can be purchased also later on and activated on-site.



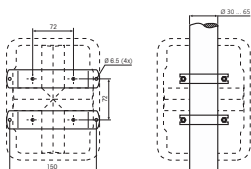
Front panel of base: activate software with code (TAN).

Software options	Designations	Order no.	✓ My selection
SmartMedia™ card	ZU 0543	52 121 207	<input type="checkbox"/>
FDA 21 CFR Part 11 compliance support*	SW 700-107	52 121 196	<input type="checkbox"/>
Audit trail spare card	ZU 0599	52 121 244	<input type="checkbox"/>
5 parameter sets	SW 700-102	52 121 192	<input type="checkbox"/>
Measuring recorder	SW 700-103	52 121 193	<input type="checkbox"/>
Extended logbook	SW 700-104	52 121 194	<input type="checkbox"/>
Software update	SW 700-106	52 121 195	<input type="checkbox"/>
AI recorder (AI = artificial intelligence)	SW 700-001	52 121 198	<input type="checkbox"/>
Configurable buffer sets (pH)	SW 700-002	52 121 199	<input type="checkbox"/>
Adaptive cal. timer (pH)	SW 700-003	52 121 200	<input type="checkbox"/>
Service Scope (pH)	SW 700-004	52 121 201	<input type="checkbox"/>
Tolerance band recorder (pH)	SW 700-005	52 121 202	<input type="checkbox"/>
Variable output curves	SW 700-006	52 121 203	<input type="checkbox"/>
Temp. compensation ultrapure water (Cond)	SW 700-008	52 121 204	<input type="checkbox"/>
Concentration measurement (Cond/Cond Ind)	SW 700-009	52 121 205	<input type="checkbox"/>
SensoCheck conf. (pH)	SW 700-010	52 121 206	<input type="checkbox"/>
High CO ₂ comp. (O ₂)	SW 700-011	52 121 250	<input type="checkbox"/>

* delivered with audit trail card

5. Select mounting device

The wall mount kit is already included in the base unit. Two further options are available.



Choose mounting device.

Mounting option	Designations	Order no.	✓ My selection
Pipe mount kit	ZU 0544	52 121 208	<input type="checkbox"/>
Panel mount kit	ZU 0545	52 121 209	<input type="checkbox"/>

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