

**Outside temperature / wet room temperature measuring transducers,
calibratable, with multi-range switching and
active output (Automatic Output Switching)**

Patented quality product (patent no. DE 10 2015 015 941 B4)

Calibratable outside temperature measuring transducer **THERMASGARD® ATM 2**, with eight switchable measuring ranges (max. $-20...+150^{\circ}\text{C}$), active output, external sensor, housing made from impact-resistant plastic with quick-release screws, with cable gland or M12 connector according to DIN EN 61076-2-101, optionally with /without display. The standard display can be changed from SI [$^{\circ}\text{C}$] to imperial [$^{\circ}\text{F}$] units via DIP switch.

The measuring transducer converts the measured variables into a standard signal of 0 - 10 V or 4...20 mA. The unit with **Automatic Output Switching** (AOS variant) detects the required output type and automatically switches to U or I output. Alternatively, a **type version** (2-wire I variant) with 2-wire connection and I output is available.

It is used to detect outside temperatures, temperatures in wet rooms, e.g. for installation on outside walls, in cold storage buildings and greenhouses, in the industrial sector and in agriculture. Installation in outdoor areas preferably at the north side of a building or in a protected place. In case of direct solar irradiation, we recommend the use of our sun and ball-impact protection hood **WS01** or **WS04** (accessories) or the device version with the installed sun protection **SS02** (on request). The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

ATM 2 - I

Power supply:	15...36 V DC, depending on working resistance, residual ripple stabilised $\pm 0.3\text{ V}$
Working resistance:	$R_b (\text{Ohm}) = (U_b - 14\text{ V}) / 0.02\text{ A}$
Connection type:	2-wire connection
Output:	4...20 mA

ATM 2 - A (AOS)

Power supply:	24 V AC / DC ($\pm 10\%$)
Load resistance:	$R_L = 25...450\text{ Ohm}$ with AOS I variant $R_L > 15\text{ kOhm}$ with AOS U variant
Connection type:	3-wire connection
Output:	automatic 0-10 V / 4...20 mA (via Automatic Output Switching – the unit detects the required output type and automatically switches to U or I output)

GENERAL

Power consumption:	$< 1.0\text{ VA} / 24\text{ V DC}; < 2.2\text{ VA} / 24\text{ V AC}$
System of units:	SI (default) or Imperial (switchable via DIP switch)
Data points:	Temperature [$^{\circ}\text{C}$] [$^{\circ}\text{F}$]
Measuring ranges:	multi-range switching with 8 measuring ranges , see table (other ranges optional) with manual zero point correction ($\pm 10\text{ K}$)
Sensor:	Pt1000, DIN EN 60751, class B (Perfect Sensor Protection)
Accuracy, temperature:	typically $\pm 0.2\text{ K}$ at $+25^{\circ}\text{C}$
Protective tube:	made from stainless steel V4A (1.4571), $\varnothing 6\text{ mm}$, NL = 65 mm
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-release screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), cover for display is transparent!
Housing dimension:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector (male, 5-pin, A-code) according to DIN EN 61076-2-101
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Process connection:	by means of screws
Ambient temperature:	measuring transducer $-30...+70^{\circ}\text{C}$
Permissible humidity:	$< 95\%$ RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP65 (according to EN 60 529) Housing tested, TÜV SÜD, Report No.713139052 (Tyr 1)
Standards:	CE conformity according to EMC directive 2014 / 30 / EU
Optional:	two-line display with illumination , cutout approx. 36x15 mm (W x H), for displaying the ACTUAL temperature and the internal diagnostics (sensor breakage, sensor short circuit)

ACCESSORIES (see table)

ATM 2
with sun protection SS02
(on request)



ATM 2 - Q
with M12 connector



Display and internal diagnostics
THERMASGARD®
Measuring transducer with display

	Temperature [$^{\circ}\text{C}$]
	Temperature [$^{\circ}\text{F}$]
	Sensor breakage
	Sensor short circuit



S+S REGELTECHNIK

NEW

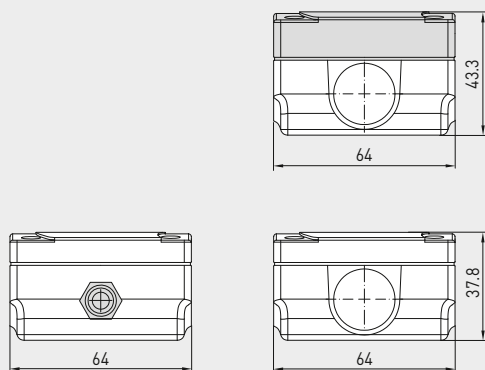
THERMASGARD® ATM 2

Outside temperature / wet room temperature measuring transducers,
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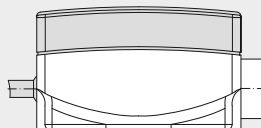


Dimensional drawing
[mm]

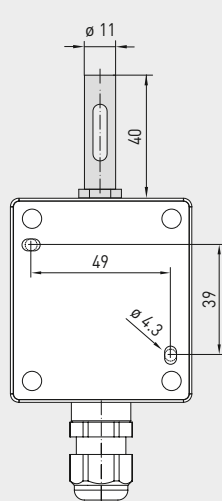
ATM 2



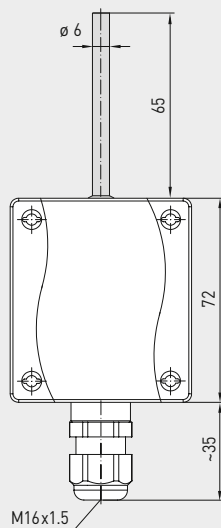
with display



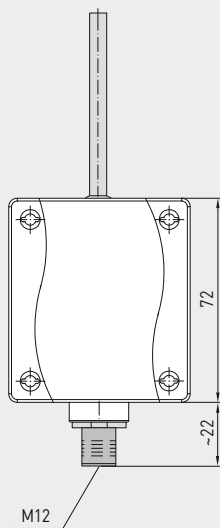
without display



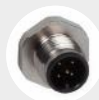
Housing with
SS-02 (on request)



Housing with
cable gland



Housing with
M12 connector



ATM 2
with cable gland
and display



ATM 2-Q
with M12 connector
and display



High-performance encapsulation against
vibration, mechanical stress and humidity

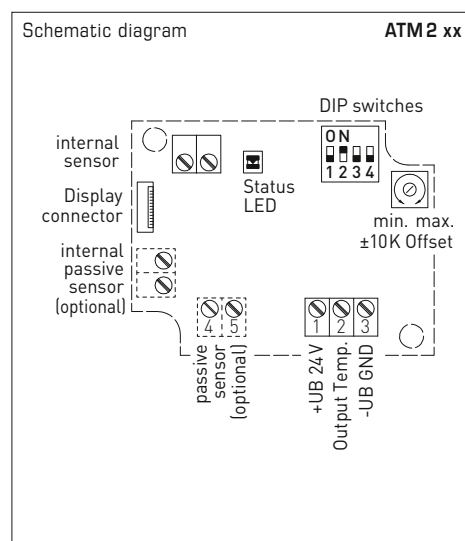
PS-PROTECTION
PERFECT SENSOR PROTECTION

Automatic detection and switching
to standard signal 0...10V or 4...20 mA

AOS-PATENTED
AUTOMATIC OUTPUT SWITCHING



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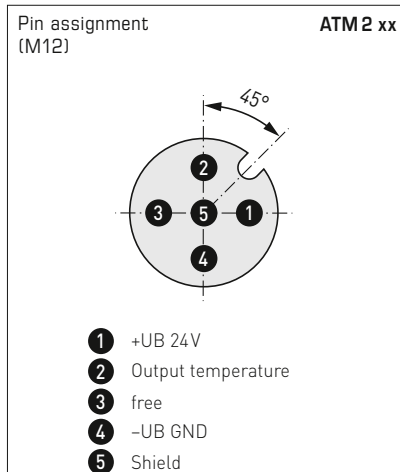
2-wire connection* ATM 2 - I

1	+UB 24V DC
2	Output Temp. 4...20mA
3	-UB GND (optional for backlighting)

* 2-wire connection for devices with / without display (not illuminated)
3-wire connection for devices with illuminated display

3-wire connection (AOS) ATM 2 - A

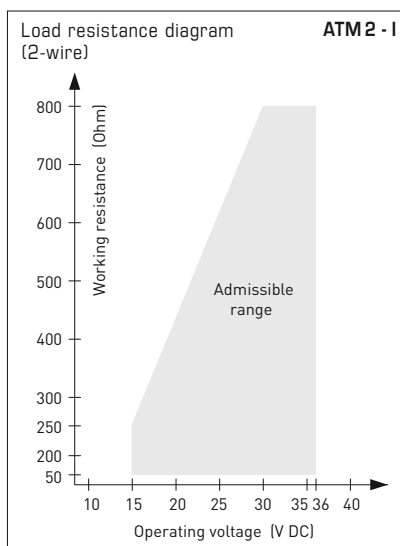
1	+UB 24V AC/DC
2	Output Temp. 0-10V / 4...20mA
3	-UB GND



Measuring ranges [°C] (adjustable)	DIP 1	DIP 2	DIP 3
-20... +150 °C	ON	ON	ON
-50... +50 °C	OFF	ON	ON
-20... +80 °C	ON	OFF	ON
-30... +60 °C	OFF	OFF	ON
0... +40 °C	ON	ON	OFF
0... +50 °C (default)	OFF	ON	OFF
0... +100 °C	ON	OFF	OFF
0... +150 °C	OFF	OFF	OFF

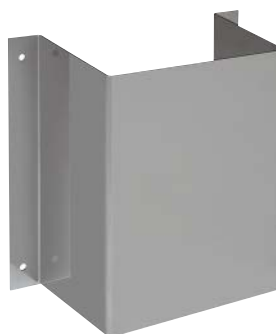
Display (switchable)	DIP 4
Imperial [°F]	ON
SI (default) [°C]	OFF

Display
Temperature [°C] → [°F]
The display value depends
on the set unit system (DIP4).



For further technical information,
see the operating instructions

Accessories
WS-01



Accessories
WS-04





NEW

S+S REGELTECHNIK

THERMASGARD® ATM 2

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active output (Automatic Output Switching)

ATM 2-Q
with M12 connector



ATM 2
with cable gland

THERMASGARD® ATM 2 Outside temperature / wet room temperature measuring transducers (with cable gland)			
Type / WG01	Output	Display	Item No.
ATM 2-I	(2-wire)		
ATM2-I	4...20 mA		1101-1142-0009-900
ATM2-I LCD	4...20 mA	■	1101-1142-2009-900
ATM 2-A	(3-wire AOS)		
ATM2-A	0-10 V / 4...20 mA		1101-114E-0009-900
ATM2-A LCD	0-10 V / 4...20 mA	■	1101-114E-2009-900
Automatic Output Switching (AOS):	Patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10 V or 4...20 mA.		
Housing variant:	Cable connection with cable gland		
Extra charge:	other measuring ranges optional with sun protection SS02		
			on request

THERMASGARD® ATM 2-Q Outside temperature / wet room temperature measuring transducers (with M12 connector)			
Type / WG01	Output	Q / Display	Item No.
ATM 2-I Q	(2-wire)		
ATM2-I Q	4...20 mA	●	2001-6111-2100-001
ATM2-I Q LCD	4...20 mA	● ■	2001-6112-2100-001
ATM 2-A Q	(3-wire AOS)		
ATM2-A Q	0-10 V / 4...20 mA	●	2001-6111-B100-001
ATM2-A Q LCD	0-10 V / 4...20 mA	● ■	2001-6112-B100-001
Automatic Output Switching (AOS):	Patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10 V or 4...20 mA.		
Housing variant "Q":	Cable connection with M12 connector (male, 5-pin, A-code)		
Extra charge:	other measuring ranges optional with sun protection SS02		
			on request

ACCESSORIES			
WS-01	Sun and ball-impact protection hood, 184 x 180 x 80 mm, stainless steel V2A (1.4301)		7100-0040-2000-000
WS-04	Weather and sun protection hood, 130 x 180 x 135 mm, stainless steel V2A (1.4301)		7100-0040-7000-000
Special accessories for M12 connector see chapter Accessories !			