

Immersion/screw-in/duct temperature measuring transducer,
calibratable, with Y-adapter,
with Modbus connection (not galvanically isolated)

TM65-Modbus-SD

Patented quality product (Immersion sensor patent no. DE 10 2012 017 500.0)
Calibratable temperature measuring transducer with sensor tube **THERMASGARD®**
TM 65-Modbus-SD, with Modbus connection (Y-adapter), in an impact-resistant plastic
housing with quick-locking screws, stainless steel-protective tube (100-200 mm),
optionally with /without display, measures temperature (-50...+150 °C).

The duct sensor is used to detect the temperature in liquid or gaseous media. Use the
stainless steel immersion sleeves for aggressive media. It is used in heating engineering,
ventilation and air conditioning ducts, pipes, storage systems, compact district heating
stations, warm and cold water systems, oil and lubrication cycle systems, machine and
systems engineering and the entire industry sector.

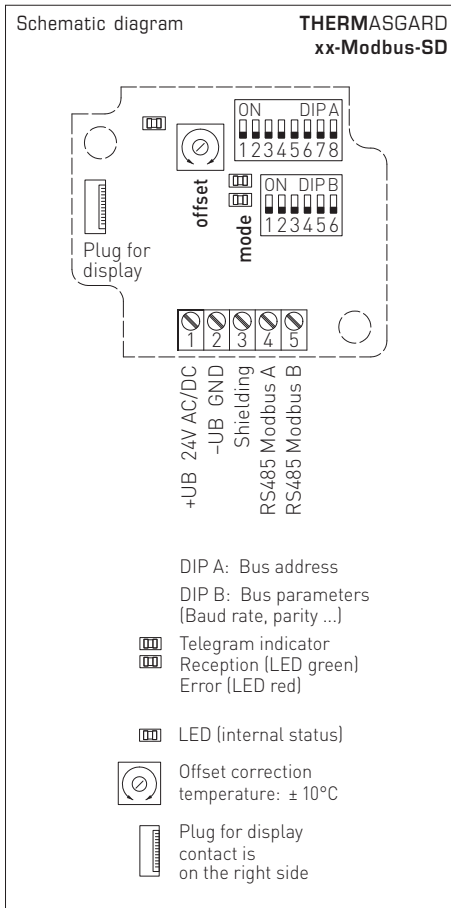
Modbus sensor SD with RS485 Modbus interface (not galvanically isolated), selectable
bus termination resistance, DIP switch for setting the bus parameters and bus address in
current-free state, internal LEDs for telegram status display (illuminated, with customised
programming). Uses **internal diagnostics** to detect sensor breakage or sensor short circuit
as errors. The sensor is factory-calibrated; an environmental precision adjustment by an
expert is possible.



TECHNICAL DATA

Voltage supply:	24 V AC (±20%) and 15...36 V DC (±10%)
Power consumption:	< 1.0 W / 24 V DC; < 2.2 VA / 24 V AC
Sensor:	Pt1000, DIN EN 60751, class B (Perfect Sensor Protection)
Measuring range:	-50...+150 °C
Temperature deviation:	typically ±0.2 K at +25 °C
Zero point offset:	±10 °C
Medium:	depending on selected immersion sleeve
Error detection:	sensor breakage, sensor short circuit
Communication:	RS485 interface, not galvanically isolated , Bus termination activatable via DIP switches.
Bus protocol:	Modbus (RTU mode), address range 0... 247 selectable
Baud rate:	9600, 19200, 38400 Baud
Signal filtering:	0.3 s / 1 s / 10 s
Protective tube:	stainless steel, V4A (1.4571), Ø = 6 mm, inserted length (EL) = 100-200 mm (see table)
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing 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 2x M 12 x 1.5 (Y-adapter); with strain relief, exchangeable, max. inner diameter 6 mm
electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Ambient temperature:	measuring transducer -30...+70 °C
Permissible humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP67 (according to EN 60 529)* housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) * housing in the built-in state
Standards:	CE conformity, electromagnetic compatibility according to EMC directive 2014 / 30 / EU, EN 61326
Optional:	display with illumination , two-line, programmable, cutout approx. 36x15 mm (W x H), for displaying the actual temperature, error message or an individually programmable display value
ACCESSORIES	see table
MF-15-K	Mounting flange plastic, 56.8 x 84.3 mm, Ø = 15.2 mm tube gland, T _{max} = +100 °C
TH08- ms / xx	Immersion sleeve , brass, nickel-plated , Ø = 8 mm, T _{max} = +150 °C, p _{max} = 10 bar
TH08- VA / xx	Immersion sleeve , stainless steel, V4A (1.4571), Ø = 8 mm, T _{max} = +600 °C, p _{max} = 40 bar
TH08- VA / xx / 90	Immersion sleeve , stainless steel, V4A (1.4571), with neck tube (90 mm) Ø = 8 mm, T _{max} = +600 °C, p _{max} = 40 bar

High-performance encapsulation against
vibration, mechanical stress and humidity

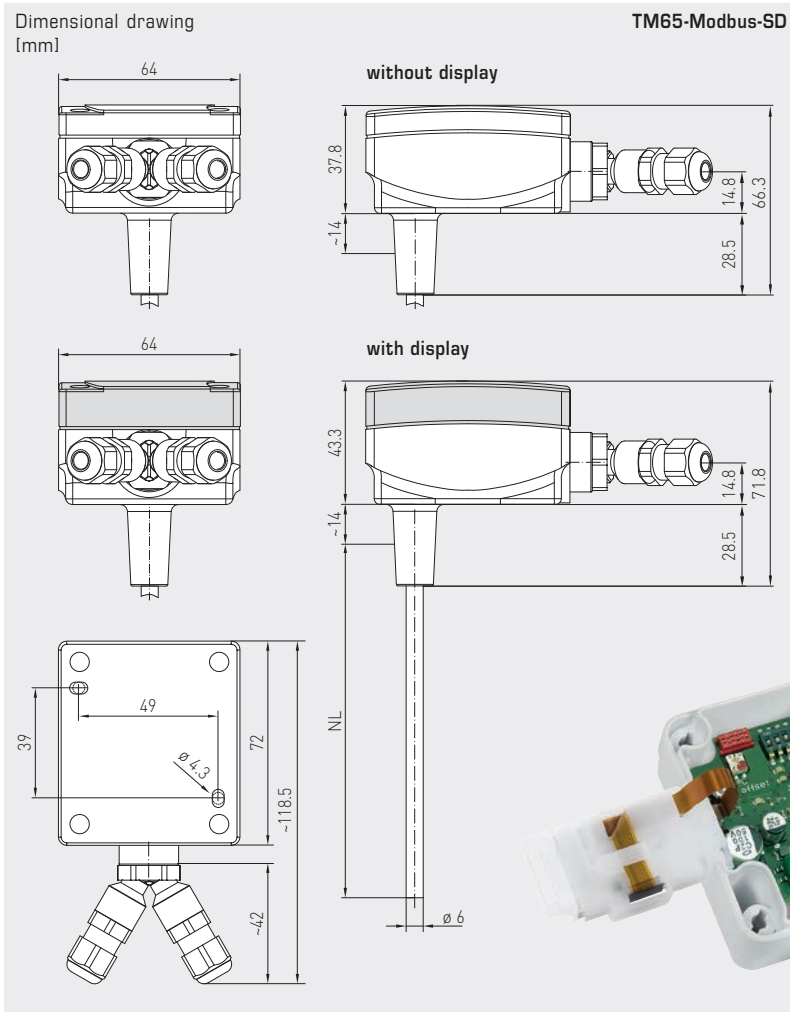




S+S REGELTECHNIK

THERMASGARD® TM65-Modbus-SD

Immersion / screw-in / duct temperature measuring transducer, calibratable, with Y-adapter, with Modbus connection (not galvanically isolated)



TM65-Modbus-SD with display



THERMASGARD® Temperature measuring transducer (basic device) with Modbus connection (not galvanically isolated)
TM 65 - Modbus - SD

Type / WG01B	Output	Inserted Length (EL)	Display	Item No.	Price
TM65-Modbus-SD					
TM65-Modbus-SD 100mm	Modbus	100 mm		1101-7286-0020-000	128,39 €
TM65-Modbus-SD 100mm LCD	Modbus	100 mm	■	1101-7286-2020-000	180,82 €
TM65-Modbus-SD 150mm	Modbus	150 mm		1101-7286-0030-000	128,63 €
TM65-Modbus-SD 150mm LCD	Modbus	150 mm	■	1101-7286-2030-000	181,07 €
TM65-Modbus-SD 200mm	Modbus	200 mm		1101-7286-0040-000	128,83 €
TM65-Modbus-SD 200mm LCD	Modbus	200 mm	■	1101-7286-2040-000	181,28 €

ACCESSORIES

KA2-Modbus	Communication adapter (USB/RS485) for system connection			1906-1200-0000-100	220,41 €
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination			1906-1300-0000-100	82,20 €

For further information, see last chapter Accessories!

Immersion / screw-in / duct temperature measuring transducer,
calibratable, with Y-adapter,
with Modbus connection (not galvanically isolated)

One basic device in four variants ...



PATENTED
DE 10 2012 017 500.0

TM65-Modbus-SD + TH08 -ms /xx

Immersion / screw-in temperature sensor with immersion sleeve, brass, nickel-plated / galvanised

TM65-Modbus-SD + TH08 -VA /xx

Immersion / screw-in temperature sensor with immersion sleeve, stainless steel, V4A

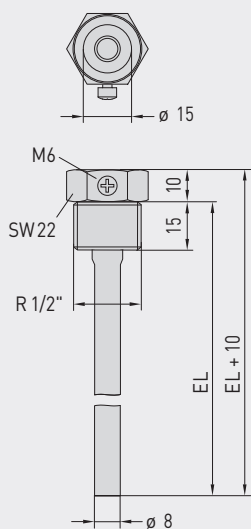
TM65-Modbus-SD + TH08 -VA /xx /90

Immersion / screw-in temperature sensor with immersion sleeve with neck tube, stainless steel, V4A

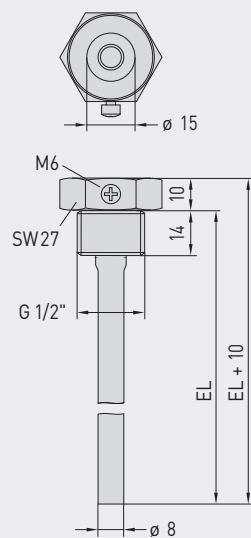
TM65-Modbus-SD + MF-15-K

Duct temperature sensor with mounting flange, plastic

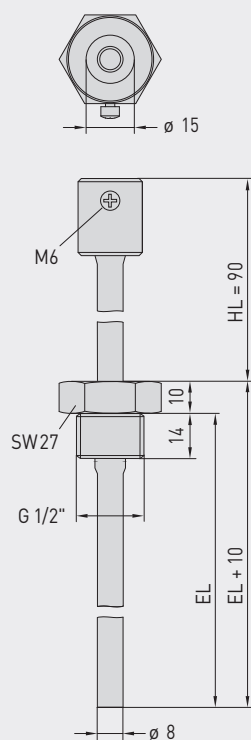
TH08 -ms /xx
Dimensional drawing [mm]



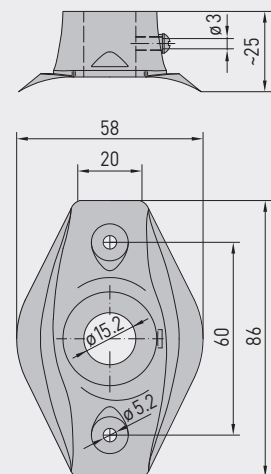
TH08 -VA /xx
Dimensional drawing [mm]



TH08 -VA /xx /90
Dimensional drawing [mm]



MF-15-K
Dimensional drawing [mm]





S+S REGELTECHNIK

Immersion / screw-in / duct temperature measuring transducer, calibratable, with Y-adapter, with Modbus connection (not galvanically isolated)

... through combination with accessories:



TH08-ms/xx
Immersion sleeve, brass, nickel-plated / galvanised, thread-sealing, conical, according to DIN 10226



TH08-VA/xx
Immersion sleeve, stainless steel, V4A, flat-sealing, cylindrical, according to DIN 228



TH08-VA/xx/90
Immersion sleeve with neck tube, stainless steel, V4A, flat-sealing, cylindrical, according to DIN 228



MF-15-K
Mounting flange, plastic

THERMASGARD® TH08 Immersion sleeve Ø 8 mm (Accessories)					
Type / WG01B	p _{max} (static)	T _{max}	Inserted Length (EL)	Item No.	Price
TH08-ms/xx	Brass nickel-plated / galvanised			without neck tube	
TH08-MS 100MM	10 bar	+150 °C	100 mm	7100-0011-0020-132	13,50 €
TH08-MS 150MM	10 bar	+150 °C	150 mm	7100-0011-0030-132	14,60 €
TH08-MS 200MM	10 bar	+150 °C	200 mm	7100-0011-0040-132	15,62 €
TH08-VA/xx	Stainless steel, V4A (1.4571)			without neck tube	
TH08-VA 100MM	40 bar	+600 °C	100 mm	7100-0012-0020-132	24,50 €
TH08-VA 150MM	40 bar	+600 °C	150 mm	7100-0012-0030-132	26,50 €
TH08-VA 200MM	40 bar	+600 °C	200 mm	7100-0012-0040-132	27,80 €
TH08-VA/xx/90	Stainless steel, V4A (1.4571)			with neck tube (90 mm)	
TH08-VA 100/90MM	40 bar	+600 °C	100 mm	7100-0012-0022-132	31,26 €
TH08-VA 150/90MM	40 bar	+600 °C	150 mm	7100-0012-0032-132	32,80 €
TH08-VA 200/90MM	40 bar	+600 °C	200 mm	7100-0012-0042-132	34,19 €
Note:	inner diameter of socket 15.0 mm For further information see last chapter!				

Mounting flange (Accessories)				
Type / WG01B		T _{max}	Item No.	Price
MF				
MF-15-K	Mounting flange, plastic, 56.8 x 84.3 mm, Ø 15.2 mm tube gland	+100 °C	7100-0032-0000-000	6,30 €
Note:	For further information see last chapter!			