

COCKPIT 360

Delta Converter 8 M ↗ Delta Converter 50 M

↗ Converter 8 M / 50 M



↗ Technical data

Pre-assembled in housing, including control transformer for 8 or 50 M-Bus meter.

- › Suitable for up to 8 or 50 M-Bus meter
- › Incl. 24 V transformer
- › Supply voltage: 230 V
- › Current consumption: up to max. 1 A

Housing dimensions: W 180 x L 182 x D 90 mm

Weight: approx. 0.9 kg

Housing material

Box	Polystyrene, grey similar to RAL 7035
Lid	Polystyrene, grey similar to RAL 7035
Seal	Polyurethane
Lid screw	Polyamide 6, glass fibre-strengthened

Housing characteristics

Protection type: IP66/IP54 - according to EN 60529 / DIN VDE 0470-1

Ambient temperature (minimal): -25 °C to +40 °C

Add-on connector: 8 x M20, 2 x M25, 1 x M32 (IP54)

Article no.

102 463 3 Delta Converter 8 M

102 463 4 Delta Converter 50 M

COCKPIT 360

Pulse Converter M-Bus

➤ Pulse Converter M-Bus



➤ Description / Function / Assembly / Connection

Description / Function:

The **pulse converter** enables meter pulses to be converted to a meter reading that can be read on an M-Bus, and for the meter reading to be shown on a seven-digit LCD display.

The consumption meter with pulse generator is set up as a fully-fledged M-Bus slave. This enables the consumption data from electricity, gas and/or water meters to be captured centrally by data remote transmission via M-Bus.

- › Operated without power supply, voltage is supplied from the M-Bus
- › Integrated battery as a back-up if the bus fails
- › Full meter function even during battery operation (bus failure)
- › Complete data retention in the case of voltage failure
- › Floating pulse generator can be connected (reed contact, optoisolator)
- › Pulse generators with electronic 50 interface (open collector) according to DIN 43864 can be connected
- › Meter reading, pulse weight and pulse unit can be set
- › Complete parametrisation via the M-Bus with write protection function
- › Wall assembly using a wall bracket

Assembly

Pulse converter in synthetic housing 79 x 79 x 41 mm with cable output / connection terminals for M-Bus and pulse line.

Assembly takes place using a wall bracket in the meter's vicinity.

Observe the pulse generator's cable lengths!

The pulse converter is clicked into the wall bracket.

Connection

The pulse converter enjoys a 4-wire connection line.

Assignment:

green/yellow = M-Bus (reading-out and parametrisation)

white = pulse input

brown = mass (for pulse input)

M-Bus interconnection with bus line Y(ST)Y 2x2x0.8

▶ Technical data

Housing		Current consumption	
Assembly	In grey synthetic housing with cable outlet for M-Bus and pulse line	Principle	Remote supply from the M-Bus with automatic switching to battery if the bus fails
Width x length x height	79 x 79 x 41 mm without wall bracket	Bus operation	max. 1.5 mA (1 standard load), no battery load
Protection class	IP54	Battery	CR 17450 SE - 3 V / 2500 mA
Ambient conditions		Storage mode	4,9 µA (25 °C)
Operating temperature	0 - 55 °C	Battery service life in storage mode	> 10 years
Storage temperature	-20 - 60 °C	Battery operation without M-Bus (with reed contact permanently open)	5,5 µA (25 °C)
Moisture (not condensing)	10 - 70 %	Battery service life without M-Bus (with reed contact permanently open)	> 10 years
Requirements for the pulse transmitter's pulse contacts (reed contact)		Battery operation without M-Bus (with reed contact permanently closed)	22 µA (25 °C)
Potential	floating, insulation against mass > 1 MΩ	Battery service life without M-Bus (with reed contact permanently closed)	> 4500 days
Resistance	open > 1 MΩ, closed < 200 Ω	M-Bus: physical characteristics	
Maximum capacity (incl. cable)	2 nF	Quiescent current M-Bus	Type 1.3 mA, maximum 1.5 mA (1 standard load)
Minimum contact duration	35 ms	Modulation current M-Bus interface	Quiescent current (1.3 mA) + typ. 13 mA TI TSS721A with 2 x 220 Ω protection resistance
Minimum clearance between two Pulses	35 ms	M-Bus protocol	
Maximum pulse frequency	25 Hz	Relates to the standard	EN13757-2/-3
Contact input (reed contact)		Transmission speed	300, 2400 baud
Contact voltage	2.5 - 3.3 V	Article no.	
Contact current	5 µA	102 691 9	Pulse converter M-Bus
Guaranteed debouncing time	5.0 ms		
Connection cable	max. 30 cm		

COCKPIT 360

Delta Sammelbox 1.0

➤ Delta Sammelbox 1.0



➤ Technical data

GSM/GPRS-based telemetry module and data logger in robust and water-resistant IP67 housing for wall assembly

- › With monitoring LED
- › GSM aerial connection - SMA
- › Connection for M-Bus converter (RS232)
- › Connection for RS 485 (Modbus/RTU protocol)
- › Connection for up to 20x 1-Wire temperature sensors (Bus 1-Wire485)
- › Connection for up to 4x 50 meters
- › Connection for third-party devices with Modbus RTU
- › Internal battery & power management
- › Incl. log-in software:
 - › For up to 8x M-Bus WMZ (heat control panel)
 - › For up to 50x M-Bus WMZ (homes)
 - › For up to 4x 50 meters
 - › For up to 20x 1-Wire temperature sensors
 - › Data transfer to ,COCKPIT 360' web portal
 - › Data backup on an internally pluggable Micro SD card up to 4 GB
 - › Alarm definition with SMS notification (flow temperature is monitored via WMZ 1./2. and group or individual notification)

Technical data

Operating voltage	10-36 V DC or 85-265 V AC
Current consumption	50-70 mA
Housing dimensions	W 130 x L 180 x D 60 mm
Weight	approx. 0.9 kg
Protection type	IP67
Ambient temperature	-25° to +40° C
Add-on connector	3 x PG11, 2 x PG9 blind

Housing material

Box	Polycarbonate, grey similar to RAL 7035
Lid	Polycarbonate, grey similar to RAL 7035
Seal	Polyurethane
Lid screw	Polyamide 6, glass fibre-strengthened

Article no.

102 463 2 Delta-Sammelbox 1.0

COCKPIT 360

Delta temperature cable sensor ↗ Delta external temperature sensor

↗ Wire temperature cable sensor / 1-Wire external temperature sensor



↗ Technical data

1-Wire temperature cable sensor

Temperature measurement

Sensor element	DS18B20+
Measurement range	-55...85 °C (2-conductor connection, parasitic), -55...125 °C (3-conductor connection)
Precision	+/-0.5 °C (-10 °C to 85 °C)

Connection and dimensions

Connection	2/3-conductor connection (Data, GND, VDD) to 1-Wire bus
Connection line	3 m silicon, SiHF (not halogen-free)

Temperature durability

Connection line	-50 °C...+180 °C
Diameter	
Connection line	5 mm
Cross-section	
Pigtails	4 x 0,25 mm, three ends stripped and tin plated
Case dimension	6 x 50 mm
Case material	stainless steel, 1.4571, V4A

Operating range / protection class

Insulation resistance	>100 MOhm, at 20 °C (500 V DC)
Protection class	III (according to EN 60730)
Protection type	IP68 (according to EN 60529)

1-Wire external temperature sensor

Assembled in housing

Measurement range	50 °C ... 85 °C (2-conductor connection)
Precision	+/-0,5 °C (-10 °C ... 70 °C) sensor calibrated ex-works
Sensor element	DS18B20+
Electrical connection	0,14-1,5 mm ² , via screw terminals to board with 2-conductor connection (Data, GND, VDD) to 1-Wire bus.
Connection head	made from synthetic material, polyamide, 30 % glass bead-reinforced with quick-release screws, Colour pure white (similar to RAL 9010)
Insulation resistance	>100 MOhm, at 20 °C (500 V DC)
Dimensions	72 x 64 x 39,4 mm
Protection class	III (according to EN 60730)
Protection type	IP65 (according to EN 60529)

Article no.

102 463 5	Delta temperature cable sensor
102 463 6	Delta external temperature sensor