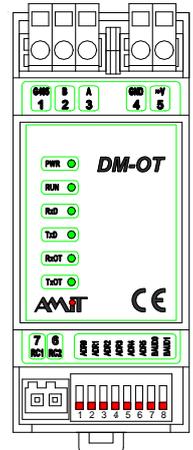**A M i T**

Industrial
Control Systems

DM-OT

OpenTherm converter with ARION protocol

- **RS485 line with ARION protocol**
- **Specification OpenTherm/plus (OT/+)**
- **Power supply and state indication by LED**
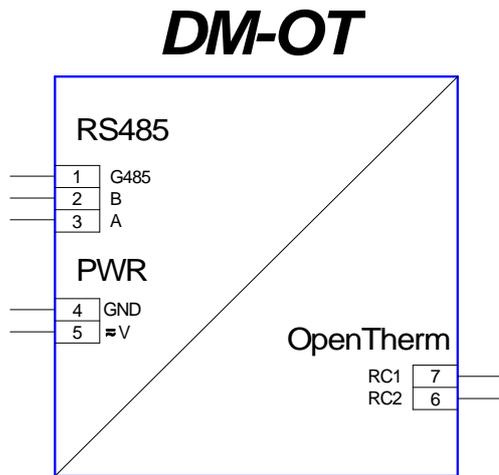- **35 mm DIN rail mounting**
- **Power supply 24 V DC/AC**

TECHNICAL DATA

RS485 line transmission rate	9600 to 57600 Bd
Galvanic separation of RS485	No
RS485 interface overvoltage protection	Transil 600 W
RS485 communication protocol	ARION
Max. number of modules on RS485 line	63
Max. number of modules on RS485 segment	31
OpenTherm transmission rate	1000 Bd
OpenTherm interface galvanic separation	Yes *)
Power supply	10 to 35 V DC 8 to 30 V AC
Max. power consumption	100 mA at 24 V DC
Power supply overvoltage protection	Yes (600 W suppressor diodes)
Cover protection rate	IP20
Mounting	35 mm DIN rail
Operating temperature	-40 to 70 °C
Max. ambient humidity	95% non-condensing
Dimensions (w × h × d)	36 × 91 × 73 mm
Weight	100 g

*) Insulation strength 300 V AC / 1 minute, galvanic separation may not be used for safe and unsafe parts separation.
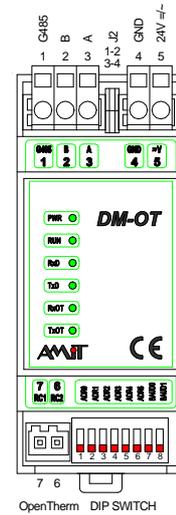
ORDERING INFORMATION

DM-OT	ARION <-> OpenTherm converter, data sheet, warranty card
TRF03	Power supply transformer 18 V AC

RECOMMENDED DIAGRAM SYMBOL

DM-OT

RS485

1	G485
2	B
3	A

PWR

4	GND
5	≈V

OpenTherm

RC1	7
RC2	6

TERMINAL LOCATION

OpenTherm   DIP SWITCH

LED ASSIGNMENT

LED	Assignment
PWR	Converter is power supplied
RUN	It blinks when unit firmware is running
RxD	Receiving on the RS485 side
TxD	Transmitting on the RS485 side
RxOT	Receiving on the OT side
TxOT	Transmitting on the OT side

DIP SWITCH SETTING

Jumpers – RS485 line

J2, 1-2	Line state definition + A line termination
J2, 3-4	Line state definition + B line termination

RS485 transmission rates

9600 Bd	BAUD0 = OFF, BAUD1 = OFF
19200 Bd	BAUD0 = ON, BAUD1 = OFF
38400 Bd	BAUD0 = OFF, BAUD1 = ON
57600 Bd	BAUD0 = ON, BAUD1 = ON

DIP SW8

SW8.1	Address, binary weight of 1
SW8.2	Address, binary weight of 2
SW8.3	Address, binary weight of 4
SW8.4	Address, binary weight of 8
SW8.5	Address, binary weight of 16
SW8.6	Address, binary weight of 32
SW8.7	BAUD0, transmission rate
SW8.8	BAUD1, transmission rate

An example of address construction: Addr = 38, switches 2, 3 and 6 are ON (2 + 4 + 32).

MOUNTING INSTRUCTIONS

OpenTherm line:
- RC1-RC2 terminals. Signal connection is independent on polarity.
- Point-to-point connection type.
- Max. cable length 50 m.
- Max. cable resistance 2 × 5 Ohm.
- Use shielded twisted pair cable for the line. Shielding has to be connected to PE on the switchboard side.

RS485 line:
- Use shielded twisted pair cable for the line. Shielding has to be connected to terminal G485.
- G485 terminal is internally connected with GND terminal.
- Termination jumpers are connected only at the RS485 segment ends.

SUPPLEMENTARY DOCUMENTATIONS

Application note „OpenTherm devices in ARION network" (ap0028_en_xx.pdf).
Application note „Communication in ARION network" (ap0025_en_xx.pdf).
Application note „Conventions for using RS485 line" (ap0016_en_xx.pdf)

Documentation and examples are available on www.amit.cz or on company CD.