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Find the *Westermo MD-42-AC* at our website: ***Click HERE***

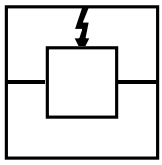
MD-42 AC
MD-42 DC

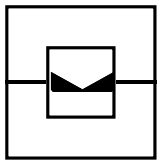
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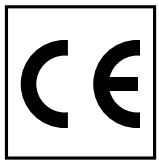
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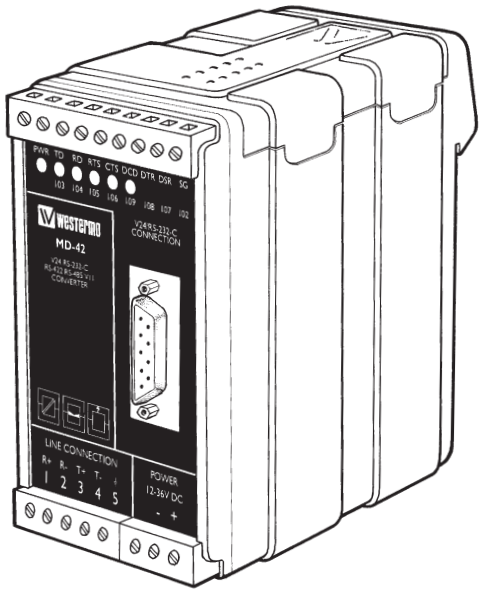
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Galvanic Isolation


Transient Protection


Balanced Transmission


CE Approved



Omvandlare RS-232 – RS-422/485
Converter RS-232 – RS-422/485
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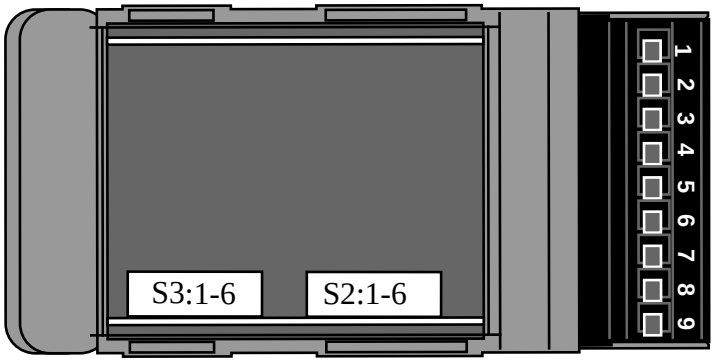
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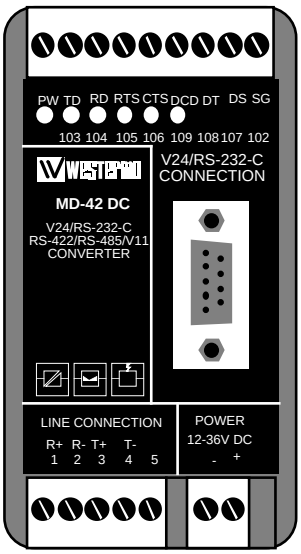
Specifications

Transmission	Asynchronous, full/half duplex or simplex
Interface 1	EIA RS-232-C/CCITT V.24, 9-position D-sub female / Screw-terminal
Interface 2	EIA RS-422/RS-485/CCITT V.11
Data rate	Up to 115.2 kbit/s
Indicators	Power, TD, RD, RTS, CTS, DCD
Insulation	Galvanic insulation with opto-coupler (data transmission) and transformer (supply)
Insulation voltage	1500V
Overvoltage protection	**Mains:** Breakdown voltage 430V at 230V AC and 230V at 115V AC* **Interface 2:** Breakdown voltage transmitter and receiver 7V Surge capacity 0.6 kW for 1ms
Power supply	115V*/230VAC +15/–10% 48–62Hz
Fuse	100 mA fast 5x20 mm
Power consumption	Max 4VA at 115V*/230V AC
Temperature range	5-50°C, ambient temperature
Humidity	0–95% RH, non-condensing
Dimensions	55x100x128 mm (BxHxD)
Weight	AC 0.5 kg, DC 0.3 kg
Mounting	At DIN-rail 35 mm

** MD-42 115V AC only*

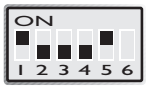
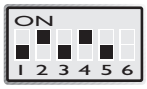
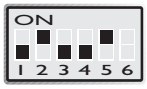
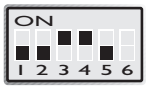
Warning!
Do not open connected unit



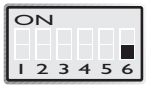


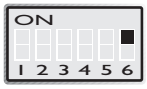
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Transmitter

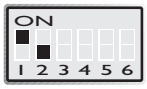
		Transmitter Activated by	CTS contolled by	DCD contolled by
S2		RTS	RTS	RTS
S2		RTS	RTS	Always high
S2		DTR	DTR	DTR
S2		DTR	DTR	Always high
S2		Always active	Always high	Always low
S2		Always active	Always high	Always high

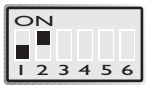
CTS-delay

S2  0ms

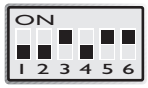
S2  20ms

Selection of 2- or 4-wire

S3  4-wire

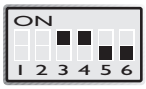
S3  2-wire

Factory settings

S2 

S3 

Termination with fail-safe 1)

S3  Termination (4-wire)

S3  Termination (2-wire)

S3  No termination

1) The fail-safe function forces the signal state of the receiver to OFF when the connected transmitter is in tri-state (transmitter inactive).
The receiver located furthest away shall be terminated.

Switch settings

The MD-42 can through different switch settings be adapted to a vareity of running conditions. To set switches, open the plastic case by removing the top cover.

S2 Selection of signal activating the transmitter
Selection of signal controlling DCD
Selection of CTS delay

S3 Selection of termination with fail-safe 1)
Selection of 2- or 4-wire communication

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Connections MD-42

Line connection

(5-Position screw-terminal)

Direction	No.	Description
Receiver	1	A' (R+)
Receiver	2	B' (R–)
Transmitter	3	A (T+)
Transmitter	4	B (T–)
	5	Shield

The definations R+/R–, T+/T– can be various between different manufactures.

Power connection (AC)

(3-position screw-terminal)

Screw no.	Power Supply
N L	115V*/230V AC power
⏚	PE/Protective Earth

** MD-42 115V only*

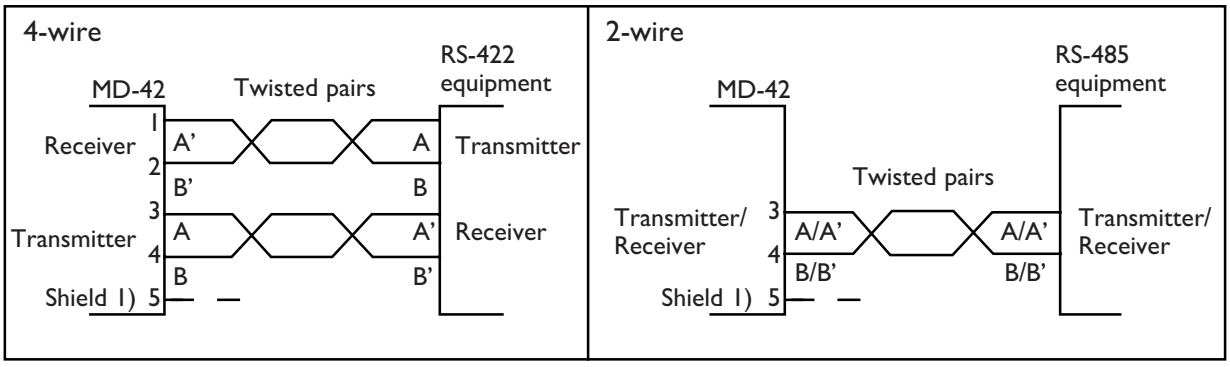
Terminal connection (DCE)

(RS-232-C/V.24, 9-position D-sub, female/screw-terminal)

Drection	Pin no.	Screw-terminal	CCITT V.24 Circuit no.	Description
I	3	8	103	TD/Transmitted Data
O	2	7	104	RD/Received Data
I	7	6	105	RTS/Request To Send
O	8	5	106	CTS/Clear To Send
O	6	2	107	DSR/Data Set Ready
–	5	9 & 1	102	SG/Signal Ground
O	1	4	109	DCD/Data Carrier Detect
I	4	3	108/2	DTR/Data Terminal Ready

I = Input **O** = Output on MD-42

Line connection



1) If shielded cable is used, connect the shield only at one end to avoid ground currents.

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Transmission range (interface 2)

Use twisted pair cable. Max transmission range 1200 m. (cable specifications 0.3 mm^2 and capacitance 42pF/m).
The transmission range will increase if a cable with lower capacitance and larger diameter is used.
Use shielded cable in heavy industrial environments.

MD-42 DC

Specifications

Power supply	12–36V DC
Power consumption	Max 2.3W
Insulation	500V
Fuse F1	1.6A fast 5x20 mm

All other specifications according to MD-42 AC

Switch settings

According to MD-42 AC

Connections

According to MD-42 AC, except power supply

Connection no.	Power Supply
1	– Voltage
2	+ Voltage

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Hints

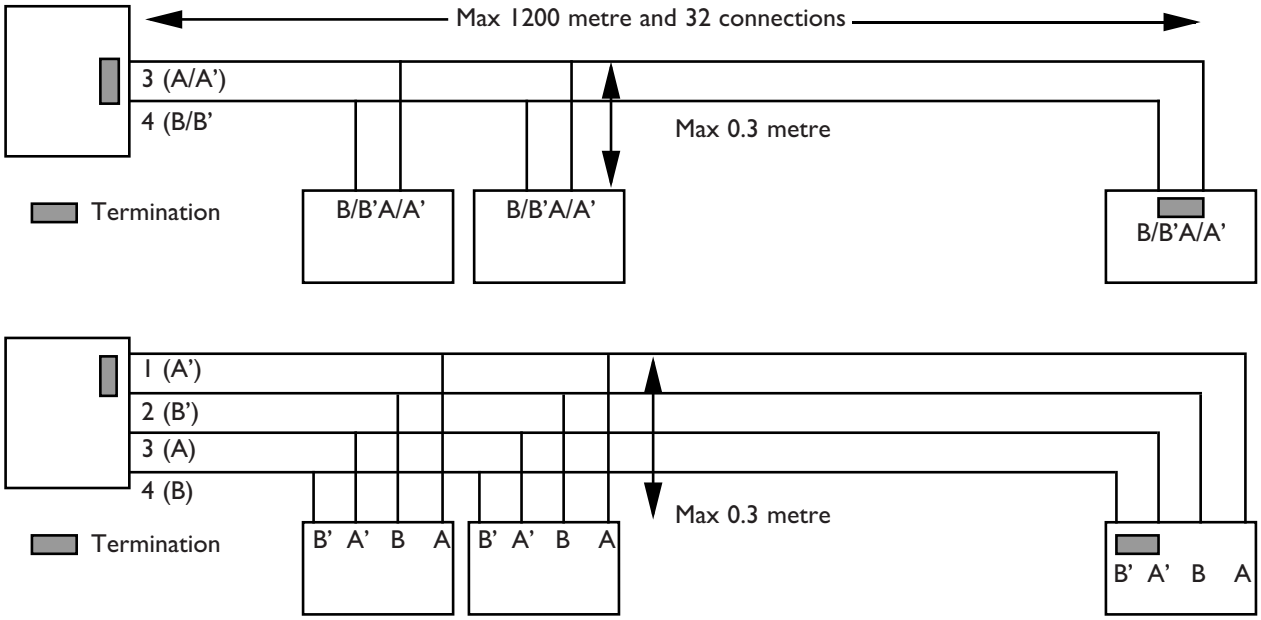
RS-422/485 was designed for multidrop applications. When a system is installed it should form a bus structure (see diagrams). Star shaped networks should never be created, there are other Westermo products designed to work in star net applications.
To correctly install, an RS-422/485 network should be terminated at the correct points. The recommendation is to terminate the receiver on the master unit and the final bus slave unit. See diagrams for details of how this is done with RS-485 (2-wire) and RS-422 (4-wire).

On 4-wire systems when the MD-42 is on a slave system, it's transmitter is linked to the same bus as all the other slave transmitters. A status signal RTS or DTR is used to control the MD-42's transmitter, to ensure only one slave is active on the bus at one time. The status signal is also used to control direction for RS-485 (2 wire) transmission.

If any problems do occur on set up of the MD-42, the LED's will be helpful.

- PWR: The unit has power.
- RD: Data received on the RS-422/485 interface.
- DCD: Simulated carrier due to the setting of S2.
- CTS: Follows RTS.
- RTS: Indicates that the RS-422/485 transmitter is activated.
- TD: Data received on the RS-232/V.24 interface.

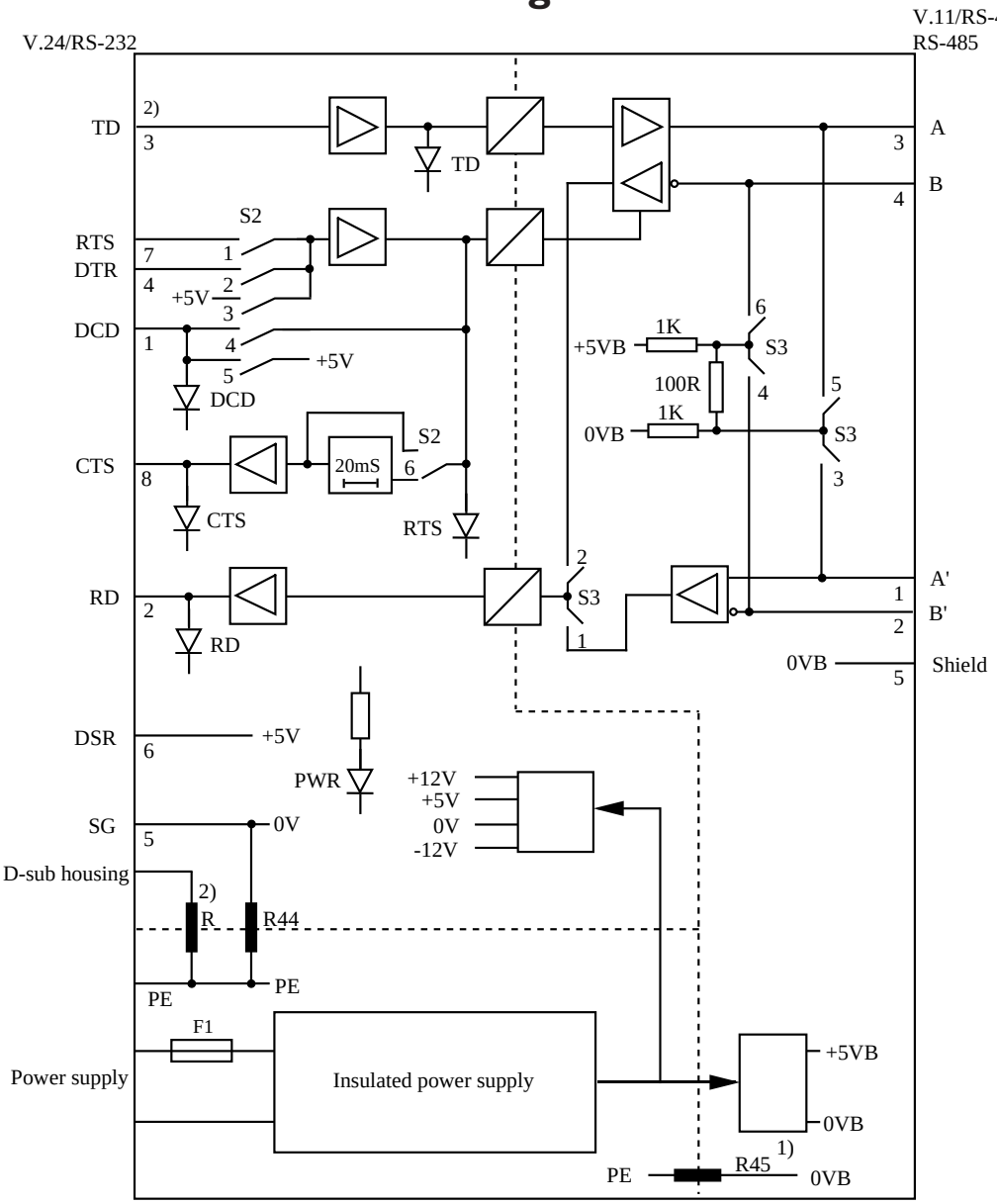
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N.B. R+/R–, T+/T– definitations are not standard, it can help to shift A and B if the unit does not work.

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Block diagram



1) 0 Ω resistor R45 is normally not mounted.
2) Metal housing on D-sub is connected to PE if R is mounted. R = R3 on DC-model (normally mounted), R = R1 on AC-mod (normally not mounted).

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