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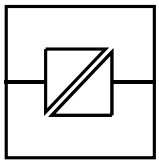
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Find the *Westermo MD-21-DC* at our website: ***Click HERE***

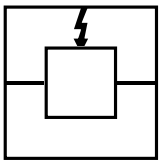
MD-21 AC
MD-21DC

INSTALLATIONSANVISNING
INSTALLATION MANUAL
INSTALLATIONS ANLEITUNG

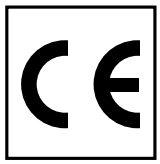
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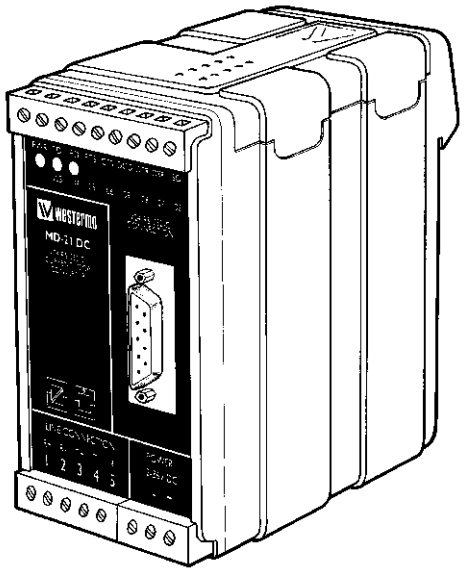
Galavanic Isolation



Transient Protection



CE Approved



Strömslingeomvandlare
Current loop converter
Stromschleifenwandler

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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	20mA current loop, selectable active or passive
Data rate	Up to 19200 bit/s
Indicators	Power, RD, TD
Isolation	Galvanic isolation with opto-coupler (data transmission) and transformer (supply)
Isolation voltage	1500V
Overvoltage protection	**Mains:** Breakdown voltage 430V at 230V AC and 220V at 115V AC* **Interface 2:** Breakdown voltage transmitter and receiver 37V. Surge capacity 0.6 kW for 1 ms
Power supply**	115V*/230V AC +15/-10% 48-62Hz
Fuse	100mA fast 5x20mm
Power consumption	Max 4VA at 115V and 230V
Temperature range	5-50° C, ambient temperature
Humidity	0-95% RH, non-condensing
Dimensions	55x100x128 mm
Weight	0.4 kg
Mounting	On a 35mm DIN-rail

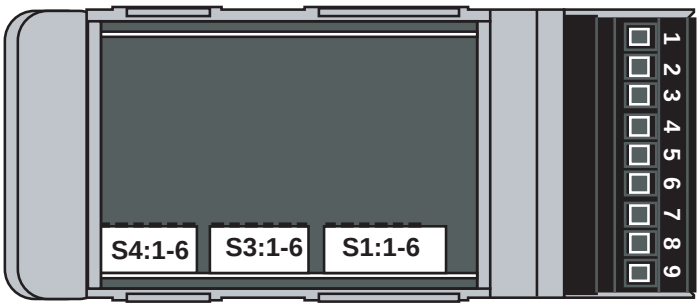
** *For other power supply voltages contact Westermo.*

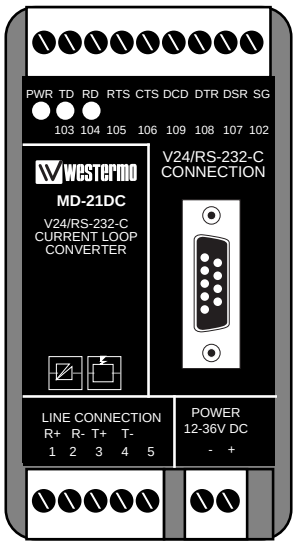
* *Only MD-21 115V*

Settings MD-21

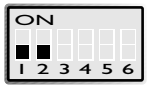
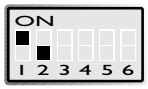
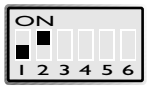
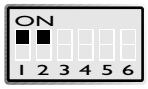
The MD-21 can through different switch settings be adapted to a variety of running conditions. To set the switches, open the lid on the top of the plastic case.

WARNING! DO NOT OPEN CONNECTED UNIT





Inverted Transmitter/Receiver

		Trans-mitter	Receiver
S1		Normal	Normal
S1		Inverted	Normal
S1		Normal	Inverted
S1		Inverted	Inverted

S1: 5-6 not used

CTS-control

S1		Always high
S1		RTS

Receiver active/passive

S3		Passive
S3		Active

Transmitter active/passive

S4		Passive
S4		Active

Factory settings

S1 

S3 

S4 

Connections MD-21

Line connection
(5-Position screw-terminal)

Direction	No.	Description
Receiver	1	R+
Receiver	2	R-
Transmitter	3	T+
Transmitter	4	T-
	5	Shield

Power connection (AC)
(3-position screw-terminal)

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

** MD-21 115V*

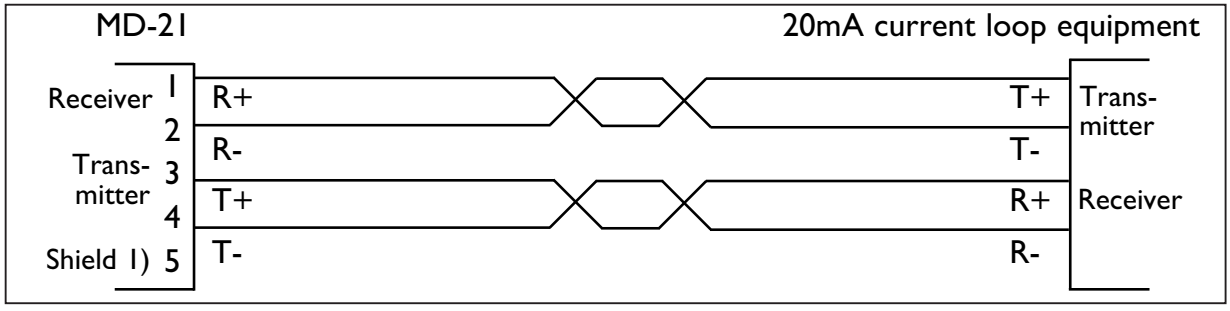
Terminal connection (DCE)

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

Direction 1)	Pin no.	Screw no.	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
NC	4	3		

I=input O=output. MD-21 is a DCE (Data Communication Equipment).
NC=not connected.

Line connection MD-21



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

Transmission range (interface 2)

Cable	Transmission rate bit/s					
42pF/m	600	1200	2400	4800	9600	19200
0.3 mm^2	6000 m	5000 m	4000 m	3000 m	500 m	200 m

MD-21 DC

Specifications

Power supply 12-36V DC
Power consumption Max 3W
Isolation 500V
Fuse F1 1.6A fast 5x20 mm

All other specifications according to MD-21

Switch settings

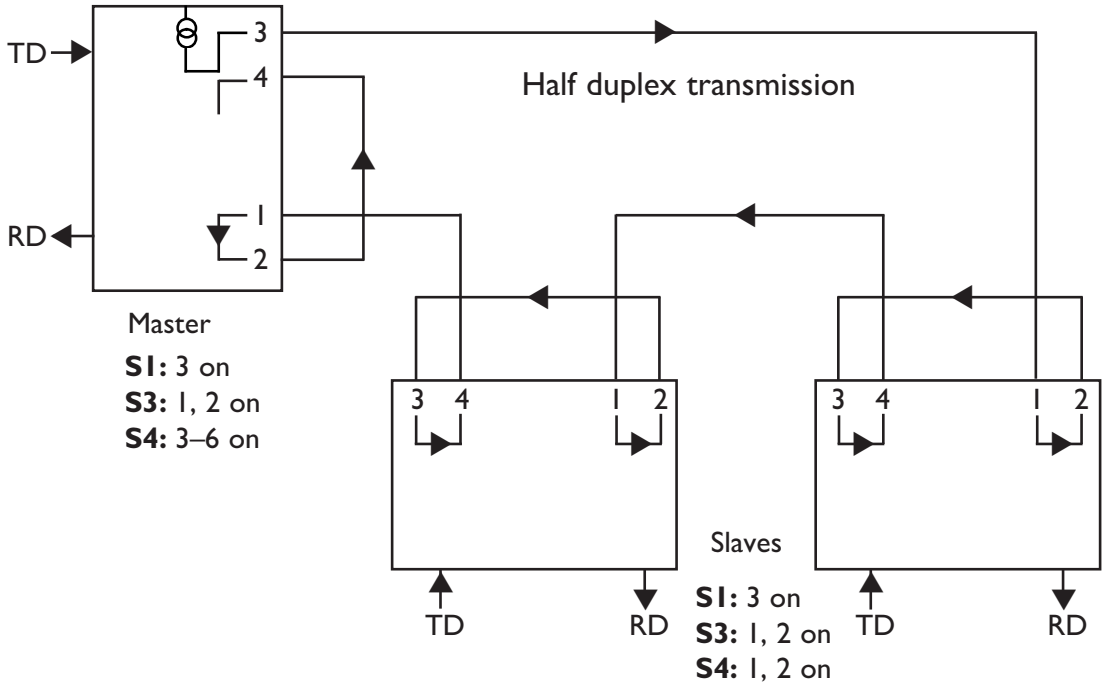
According to MD-21

Connections

According to MD-21, except power supply

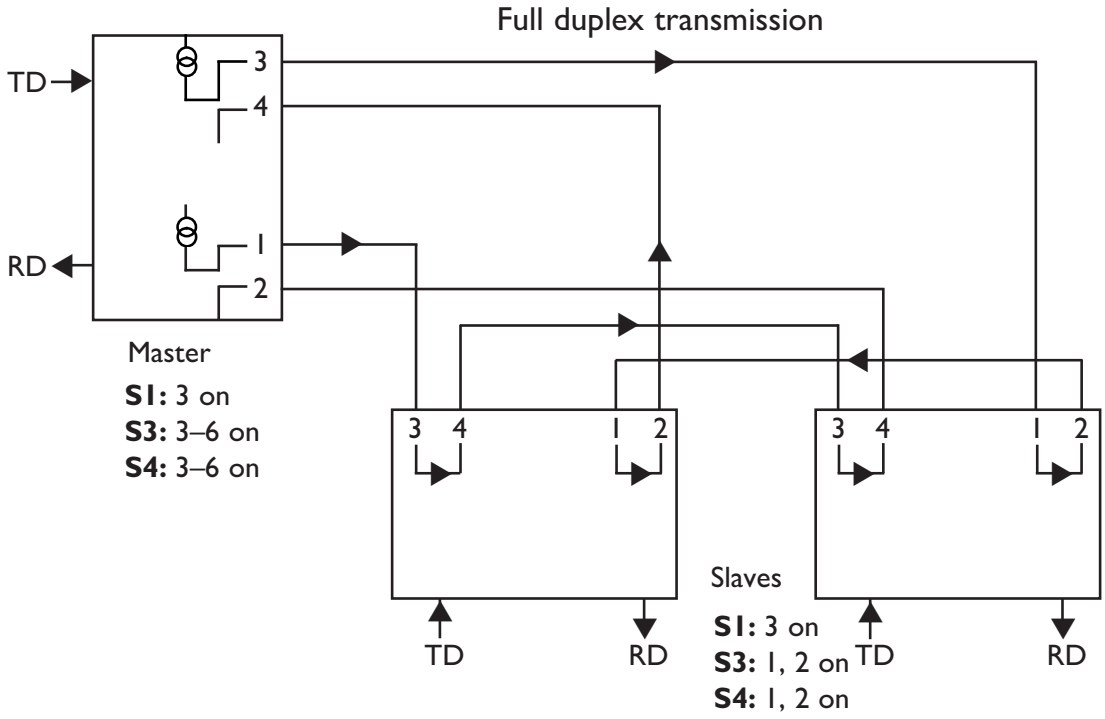
Screw no.	Power Supply
1	– Voltage
2	+ Voltage

Connecting the MD-21 in a 20mA current loop



Functional description

When transmitting from the master, RD and TD flash. RD flashes on both slaves. When transmitting from a slave both RD and TD flash and on the other slaves and the master RD flashes.



Functional description

When transmitting from a slave the TD led flashes only on that unit. The RD led flashes only on the master modem.

When transmitting from the master, TD flash. RD flashes on both slaves.

Hints

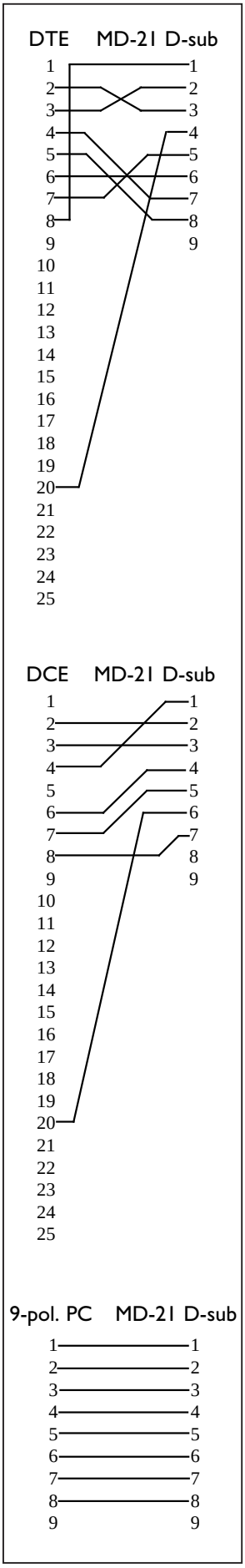
The 20mA current loop interface, or TTY as it is sometimes known, is a popular industrial communications standard. The system relies on a current generator running on both the transmit and receive circuits. On each circuit it is important to have only one current generator supplying current into that circuit. For this reason the MD-21 can have its current generators set to be either active or passive. It is important to check the state of all attached equipment to ensure correct setting on the MD-21. A maximum of 6 devices can be connected in a loop.

The RS-232 interface is configured as DCE (Data Communication Equipment). Most printers, PC's and terminals are set as DTE (Data Terminal Equipment). Some recomendation of cable configurations are given below.

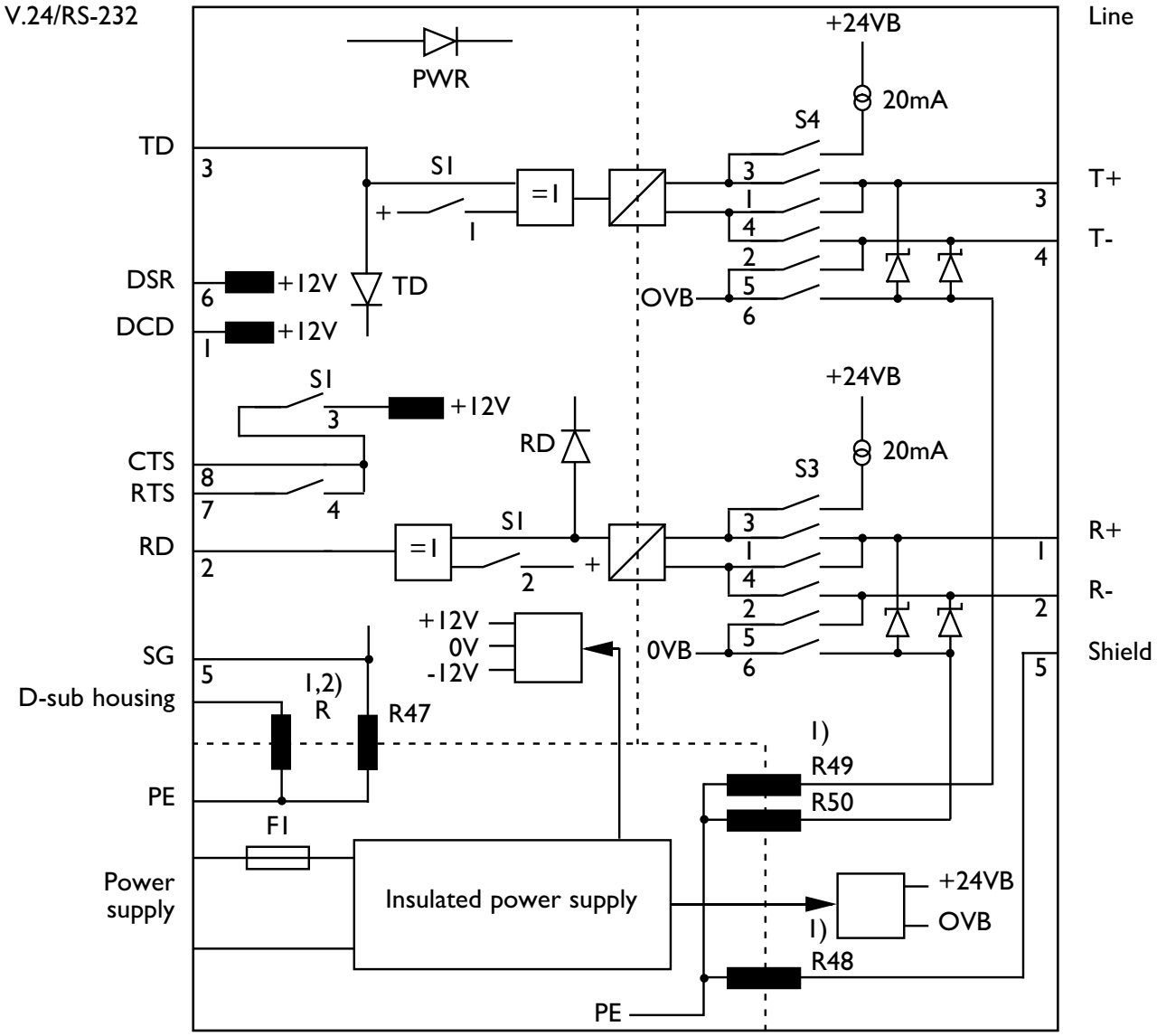
If any problems do occur on set up of the MD-21, the LED's will be helpful.

- PWR: The unit has power.
- RD: Data received on line interface.
- TD: Data received on RS-232 interface.

A good way to check the MD-21 is to carry out a loop back test. Ensure that either the transmitter or receiver are set to active, but not both active or both passive. Connect T+ to R+ and T- to R-. Connect the RS-232 interface to a terminal. When keys are pressed on the terminal you should receive the echo on screen. The TD & RD lights will both flicker simultaneously as you press the keys.



Block diagram



1) 0 Ω resistors R1, R48-R50 are normally not mounted.
2) Metal housing on D-sub is connected to PE if R is mounted.
R = R3 on the DC-mod and R1 on AC-mod.

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