

5 Specifications

5.1 General specifications

Manufacturer Leuze electronic GmbH + Co., D-73277 Owen-Teck

Types

Type	DDLS 78.5	DDLS 78.6	DDLS 78.6.1	DDLS 78.7
Range	0.5 - 120 m	0.5 - 200 m	0.5 - 120 m	0.5 - 200 m
Transm. rate	9600 bits/s	19200 bits/s	19200 bits/s	38400 bits/s

Mechanical data

Housing	Die-cast aluminium
Surface finish	Epoxy powder coated
Colour	RAL 3000
Weight	appr. 340 g
Protection class	IP 65
Optics	glass

Ambient conditions

Operating temperature with lens heating	-20 °C to +60 °C (DDLS 78.5) -35 °C to +60 °C (DDLS 78.6, DDLS 78.7 and DDLS 78.6.1)
Storage temperature	-30 °C to +70 °C

Interfaces

Standard	TTY (current loop 20 mA) permanently installed in unit, activated via plug-in module
Optional	RS-232 plug-in module RS-422 plug-in module RS-485 plug-in module

Power supply

Operating voltage	12 – 30 V DC
Residual ripple	15%
Current consumption (applicable only to TTY)	at +25 °C max. 120 mA at 0 °C max. 150 mA at -35 °C max. 280 mA

Display

Multifunction display	LED, two-colour
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Inputs

Transmitter activation (Pin 11)
Input signal

Transmitter active → +U_B

Transmitter inactive → < 2 V

Transmit-receive
carrier frequency (pin 8)

f₁ → GND or NC

f₂ → +U_B

Outputs

Warning output (pin 13)
Output signal

Open NPN collector, galvanically isolated

High – transistor disabled

for receive level with performance reserve

Low – transistor enabled

for receive level with little or no

performance reserve

Max. 50 mA

Output load

Suppressor circuit

Against overcurrent and overvoltage

Fault output (Pin 12)

Output signal

Open NPN collector, galvanically isolated

Low – transistor enabled,

if receive level suffices for data transmission

High – transistor disabled,

if receive level too low

(no data transmission)

Max. 50 mA

Output load

Suppressor circuit

Against overcurrent and overvoltage

Measurement output (pin 24)

Voltage range

0 - 6 V DC (6 V → optimum alignment)

Reference potential

GND (-U_B) = pin 10

Output load

Max. 10 mA

Electrical connection

Sub-D plug (25-pole)

– for soldered connection

– with screw terminals

– with solder terminal and

interface monitoring

Optical data

Transmission medium

DDLS 78.5 ... 78.7:

Modulated invisible infrared light

DDLS 78.6.1:

Modulated visible red light

Optical beam angle

± 1.5° to optical axis

Measurements

All measurements in mm

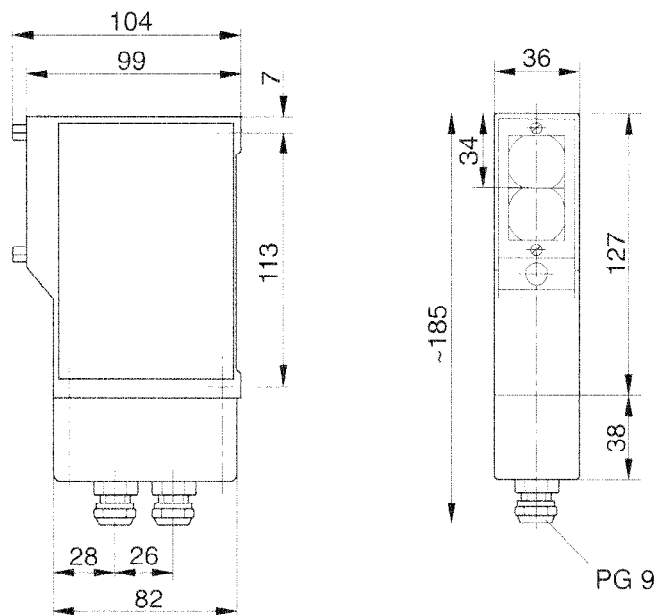


Fig. 16 Measurements

5.2 Interface specifications

Interface	Application, connection	Transmission mode	Transmission rate	Additional current consumption
TTY	Point-to-point Multiple point	Symmetrical Full duplex	max. 20 kbit/s	
RS-232	Point-to-point	Unsymmetrical Full duplex	max. 20 kbit/s	100 mA
RS-422	Point-to-point Full duplex or bus system in semi-duplex mode	Symmetrical Full duplex	max. 38.4 kbits/s	130 mA
RS-485	Point-to-point or bus system (e.g. SINEC L2)	Symmetrical Semi duplex	max. 9.6/19.2/38.4 kbit/s (respective IDLE time adjustable via plug-in jumper on interface module)	150 mA

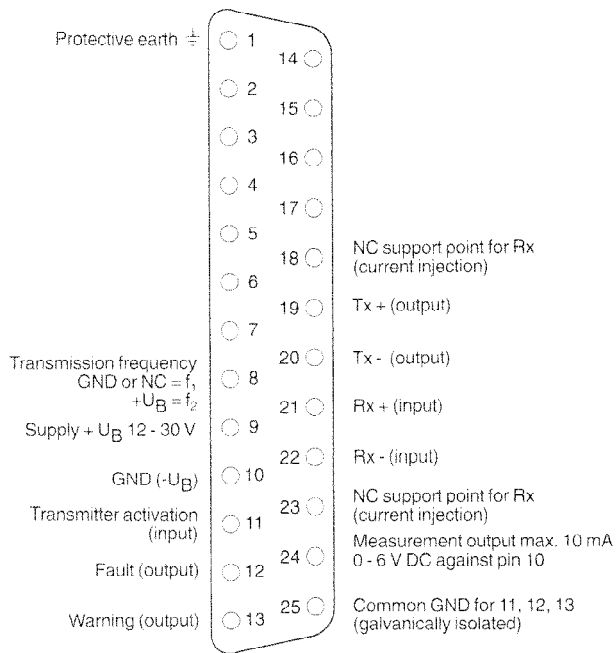


Fig. 17 Plug assignment TTY

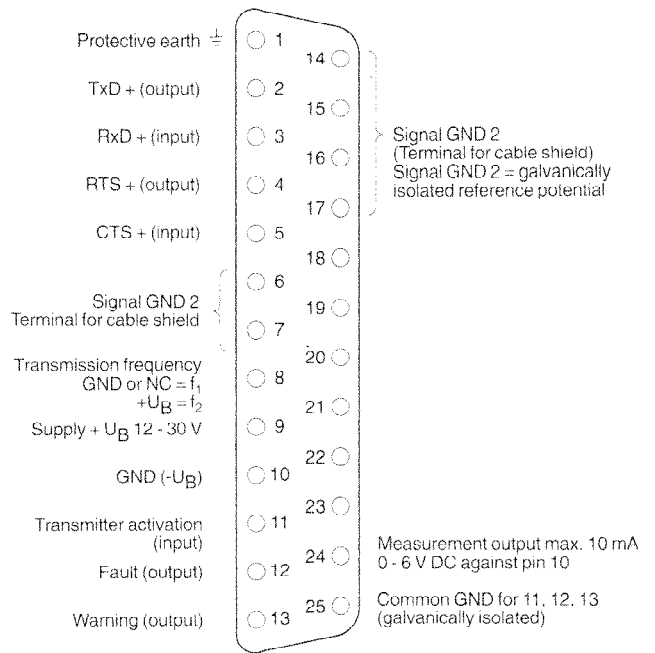


Fig. 18 Plug assignment RS-232

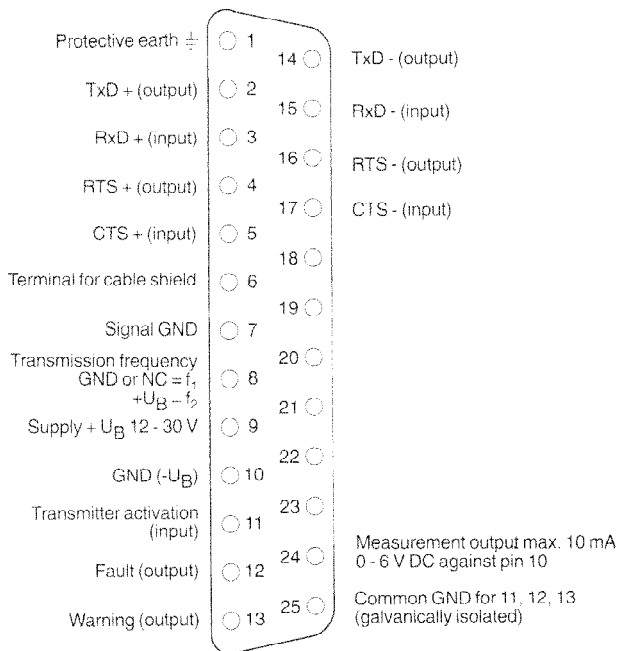


Fig. 19 Plug assignment RS-422

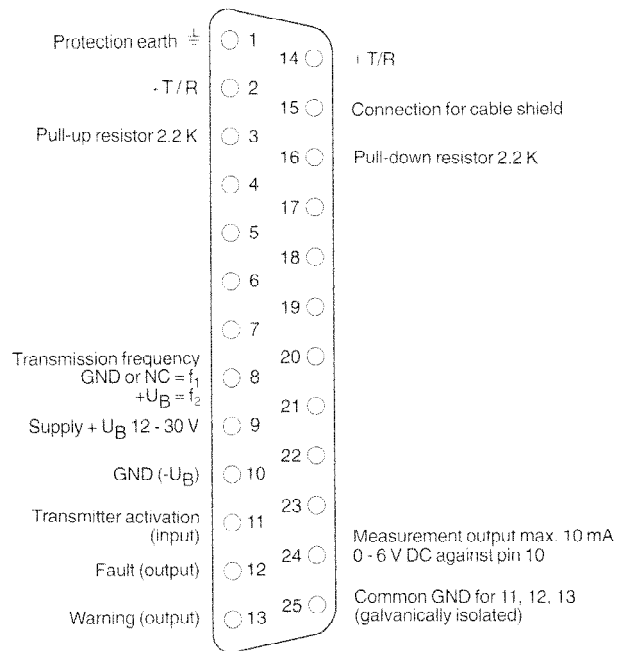


Fig. 20 Plug assignment RS-485