

#### General

- ▶ The Protector 485 is a surge arrester for connection to D-Sub connectors on an RS485 interface.
- ▶ In case of offsets on the potential of up to 10 V<sub>eff</sub> AC (caused, e.g., by earth loops) the electronics are protected and communication is also maintained. As a result data transmission is not interrupted even under very difficult conditions.  
Only in case of offsets on the potential of more than 10 V<sub>eff</sub> AC (caused, e.g., by a lightning strike) is the communication interrupted for the duration of the interference while the electronics are fully protected.
- ▶ Due to its compact design with a length of 34.6 mm, the Protector 485 is space saving.
- ▶ The Protector 485 is fitted directly to the RS485 interface, preferably on the MotionController GEL 82xx, as an intermediate connector without further cabling. Due to the low series resistance in operation, a terminating resistor can be left in the device protected.

#### Features

- ▶ Electromagnetic immunity
  - Burst (as per EN 61000-4-4) 4.4 kV
  - Surge (as per EN 61000-4-5) > 1.25 kV
- ▶ Protection against an offset on the potential
  - Up to 50 V<sub>eff</sub> AC  
Protection against damage to the electronics
  - Up to 10 V<sub>eff</sub> AC  
Maintenance of the communication
- ▶ Speed of response in the nanosecond range
- ▶ Series resistance approx. 10 Ohm (to be taken into account on designing the length of the communication cable)
- ▶ Internal circuit designed for high pulse energies, caused by lightning strike

#### Advantages

- ▶ Reliably protects the downstream hardware against damage due to an offset on the potential, e. g. in case of a lightning strike.
- ▶ Uninterrupted availability of the communication with the protected device.
- ▶ Quick to fit, as no additional cabling required.

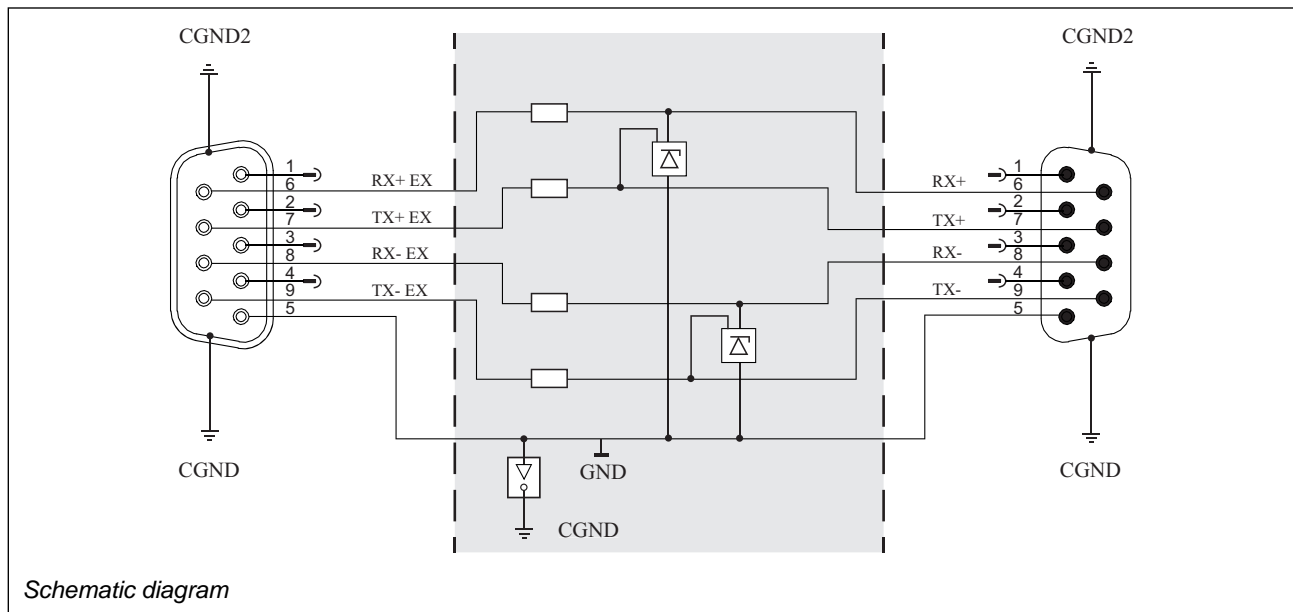
#### Fields of application

- ▶ Wind power (onshore, nearshore, offshore)
- ▶ Harsh industrial environment

# Technical data, circuit diagram

Electrical data	
Power supply	Passive component
Electromagnetic immunity Burst (according EN 61000-4-4) Surge (according EN 61000-4-5)	> 4.4 kV > 1.25 kV
Protection class	IP 20
Interface	
Serial interface	RS 485
Connection	D-sub connector
Ambient data	
Operating temperature	-40 °C ... +85 °C
Storage temperature	-40 °C ... +85 °C
Condensation	yes
Maximum atmospheric humidity	95%
Maximum operating altitude	3000 m
Vibration resistance acc. to DIN EN 60068-2-6	20 m/s <sup>2</sup> , 9 to 50 Hz
Mechanical data	
Dimensions (W x D x H )	34.6 mm x 21.8 mm x 18 mm
Weight	< 40 g

## Circuit diagram



Subject to technical modifications and typographical errors.  
The latest version can be downloaded at [www.lenord.de](http://www.lenord.de).

**IRIS**  
Certification

ISO  
9001

ISO  
14001