



Application Note

1606-XLRED20-30

- World-wide approvals (CE UL ULUS) for industry
- Connects two supplies redundantly
- Decoupling diodes

- Ready relay contacts
- Allows easy set-up of N+1 redundancy also on the DIN Rail

Concept

By means of the redundancy module you can interconnect several identical power supply units in a redundant way (N+1 redundancy); for two power supply units you require one redundancy module. The modules decouple the power supply outputs from each other so that in case of failure one power supply unit cannot overload the other power supply units. Moreover, the modules incorporate one ready relay contact per input which serves to signal the respective module's input voltage condition (= power supply output).

The 1606-XLRED20-30, designed for load currents up to 30 A, is intended above all for application with the 1606-XL480... or 1606-XL720. For smaller power values please refer to the power supply units with an integrated redundancy module 1606-XL60DR, 1606-XL120DR and 1606-XL240DR. The 1606-XLRED40 is suitable for application with the 1606-XL960....

Decoupling part

Voltage	
• nominal value	24V DC
• max. rated	35V, short-term 45V
Voltage drop	
$V_{in} \rightarrow V_{out}$	typ. 0.5V
Current per in- and output	
• nominal value	20...30 A
• max. rated	35 A
Parallel operation for increasing the power is only permissible if the total output current cannot exceed the maximum rated value (danger of overloading).	
Inverse battery protection	yes
Connection	via stable screw terminals

Note: GND is not looped over the module. The GND connector on the module exclusively serves as intrinsic power supply

Construction / Mechanics

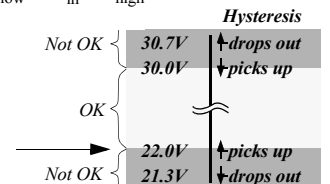
Housing dimensions and Weight	
• W x H x D	48 mm x 124 mm x 102 mm (+ DIN Rail)
• Free space for ventilation	above/below 10 mm recommended left/right 10 mm recommended
• Weight	625 g

Design advantages:

- All connection blocks are easy to reach as mounted at the front panel
- Wire Size Input/Output:
- Stranded 20...10 AWG (0.5...4 mm²), Solid 20...10 AWG (0.5...6 mm²)
- Tightening Torque: 7 lbs in (0.8 Nm) recommended

Relay contacts

Relay type	Changeover contact, picked-up during normal operation
• relay picks up ("ok")	when V_{in} between V_{low} and V_{high}
• relay drops out	when $V_{in} < V_{low}$ or $V_{in} > V_{high}$
Upper limit V_{high}	30V \pm 5% fix
• hysteresis	appr. 0.7V
Lower limit V_{low}	adjustable
• guaranteed range	16...27V
• preset	22V \pm 1%
• hysteresis	appr. 0.7V
Contact load	28V DC / 1 A or 120V AC / 0.5 A
Connection	via stable screw terminals
LEDs on the front panel	
• for inputs	green LED, when V_{in} between V_{low} and V_{high}
• for output	green LED, when $V_{out} >$ appr. 2.5...3.5V

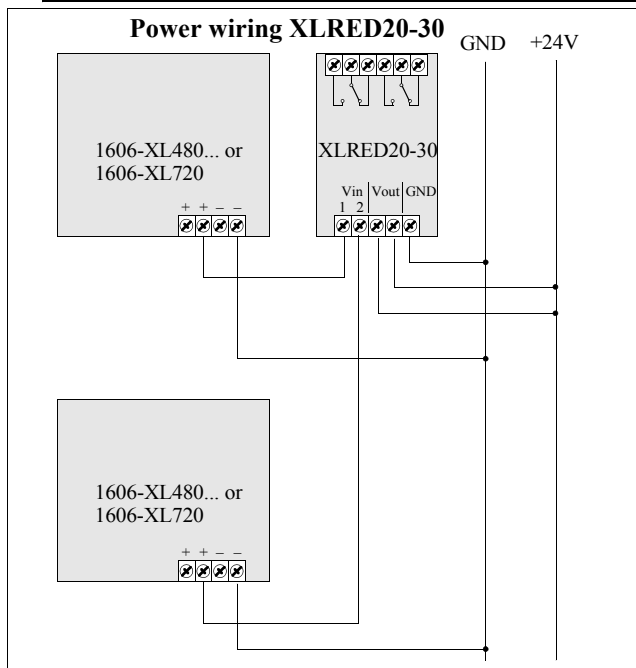


Note:

- All relay contacts are potential-free.
- The 1606-XLRED20-30 includes two of these relay contacts, each per input.

Further information

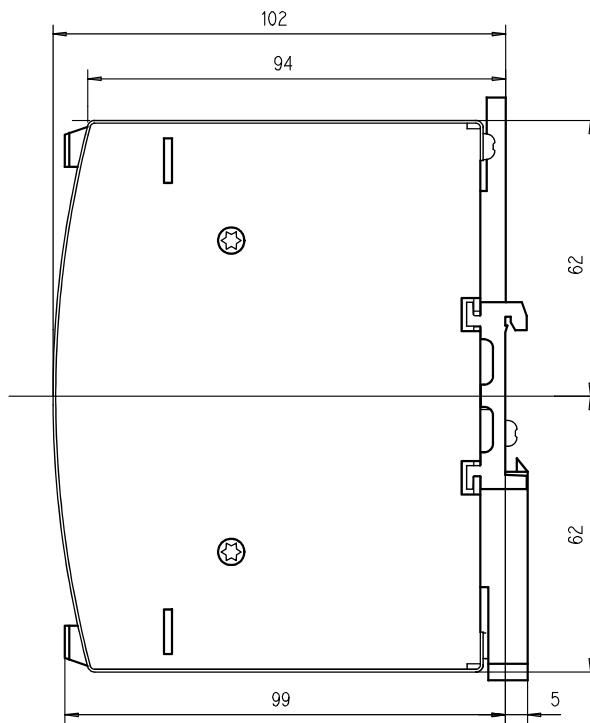
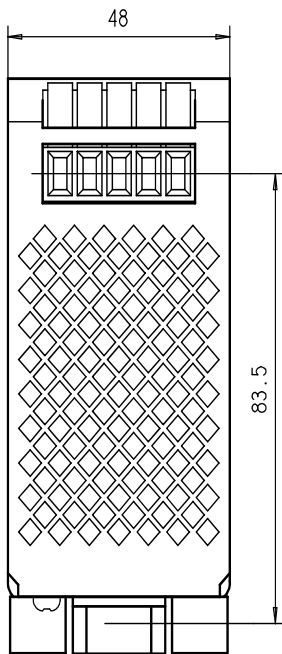
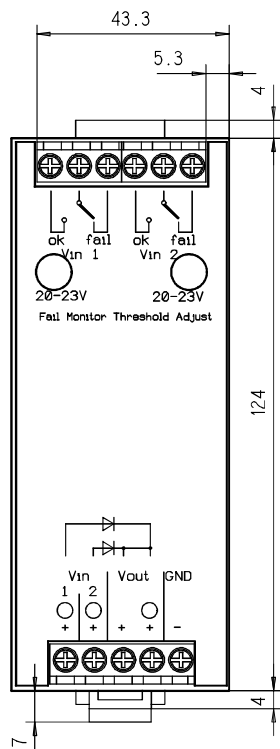
Test voltage	
• relay cont., V_{in} , V_{out}	500V AC
• V_{in} , V_{out} / housing	500V AC
Ambient temperature range	Operation: -10°C...+70°C
T_{amb}	Storage: -25°C...+85°C
Efficiency	> 97%



Front view

Bottom view

Side view



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This technical information is valid for 230V AC, +25°C ambient temperature and 5 min. run-in time, unless otherwise stated. It is subject to change without prior notice.