Application Note

1606-XLRED40

- World-wide approvals ( ) for industry
- Decoupling diode
- Ready relay contact
- Allows easy set-up of N+1 redundancy also on the DIN Rail

Concept

By means of the redundancy module 1606-XLRED40 you can interconnect several identical power supply units in a redundant way (N+1 redundancy); you require one 1606-XLRED40 for each power supply unit. 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 a ready relay contact which serves to signal the module’s input voltage condition (= power supply output).

The 1606-XLRED40, designed for high load currents, is intended above all for application with the 1606-XL960... power supply unit. For smaller power values please refer to the 1606-XLRED20-30 as well as to the power supply units with an integrated redundancy module 1606-XL60DR, 1606-XL120DR and 1606-XL240DR.

Decoupling part

Voltage
- nominal value 24V DC
- max. rated 35V, short-term 45V

Voltage drop
$V_{in} - V_{out}$ typ. 0.6V

Current per in- and output
- nominal value 40 A
- max. rated 50 A

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 117 mm (+ DIN Rail)
- Free space above/below 10 mm recommended for ventilation left/right 10 mm recommended
- Weight 646 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 when $V_{in}$ between $V_{low}$ and $V_{high}$
- relay picks up ("ok") when $V_{in} < V_{low}$ or $V_{in} > V_{high}$

Upper limit $V_{high}$
- hysterisis
  - preset 22V ± 1%
  - hysteresis approx. 0.7V
  - relay delay typ. 50 ms at undervoltage

Lower limit $V_{low}$
- guaranteed range
  - preset 16...27V
  - hysteresis approx. 0.7V
  - relay delay typ. 50 ms at undervoltage

Contact load
- 48V DC / 1 A or 230V AC / 0.5 A

Connection via stable screw terminals

LEDs on the front panel
- for input green LED, when $V_{in}$ between $V_{low}$ and $V_{high}$
- for output green LED, when $V_{out} >$ approx. 2.5...3.5V

Note:
- All relay contacts are potential-free

Further information

Test voltage
- relay cont., $V_{in}$ $V_{out}$ 3 kV
- relay contacts/PE 2.5 kV
- $V_{in}$ $V_{out}$/PE 500V AC

Ambient temperature range
- Operation: -10°C...+70°C
- Storage: -25°C...+85°C

Efficiency > 97 %
Power wiring 1606-XLRED40

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.

www.rockwellautomation.com

Corporate Headquarters
Rockwell Automation, 777 East Wisconsin Avenue, Suite 1400, Milwaukee, WI, 53202-5302 USA, Tel: (1) 414.212.5200, Fax: (1) 414.212.5201

Headquarters for Allen-Bradley Products, Rockwell Software Products and Global Manufacturing Solutions
Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe: Rockwell Automation SANV, Vorstlaan/Boulevard du Souverain 36-BP 3A/B, 1170 Brussels, Belgium, Tel: (32) 2 863 0600, Fax: (32) 2 863 0640
Asia Pacific: Rockwell Automation, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Headquarters for Dodge and Reliance Electric Products
Americas: Rockwell Automation, 6040 Ponders Court, Greenville, SC 29615-4617 USA, Tel: (1) 864.297.4800, Fax: (1) 864.281.2433
Europe: Rockwell Automation, Brühlstraße 22, D-74634 Elztal-Dallau, Germany, Tel: (49) 6261 9410, Fax: (49) 6261 1774
Asia Pacific: Rockwell Automation, 55 Newton Road, #11-01/02 Revenue House, Singapore 307987, Tel: (65) 351 6723, Fax: (65) 355 1733