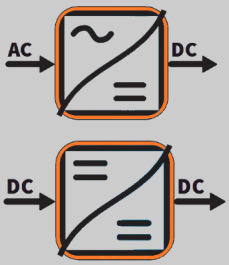
Industrial power supply AC-DC or DC-DC up to 1500 Watts output: 110Vdc, 115Vdc, 125Vdc, 127Vdc ... 250Vdc AL175

LOREME

- ***DIN RAIL or surface mounting***
  1500 Watts total, up to 5 outputs
  Output voltage: 5Vdc.....480Vdc
  (application : 110Vdc and 127Vdc)



- ***AC or DC Input:*** *Switching-mode power supply*
  85 .... 265Vac (50Hz, 60Hz, 400Hz)
  100 … 370Vdc; 200 ... 1200Vdc

- ***Fully protected :*** *Short circuit, overload, thermal*

- ***AL175L*** *natural convection, 400 Watts max*
- ***AL175*** *fan cooling, 1000 Watts max*
- ***AL175HD*** *fan cooling, 1500 Watts max*
- ***AL175R*** *redundant version*

- ***Option:*** *Ethernet link for monitoring*
  Internal ORing diode for parallel coupling
  Watchdog relay for "output OK"
  Analog output 0...10V ; 4...20mA. copy of current

Strong industrial power supply, mid-power, DIN rail mounted, configurable on request, fully protected and available with 1 to 5 isolated outputs or redundant version.

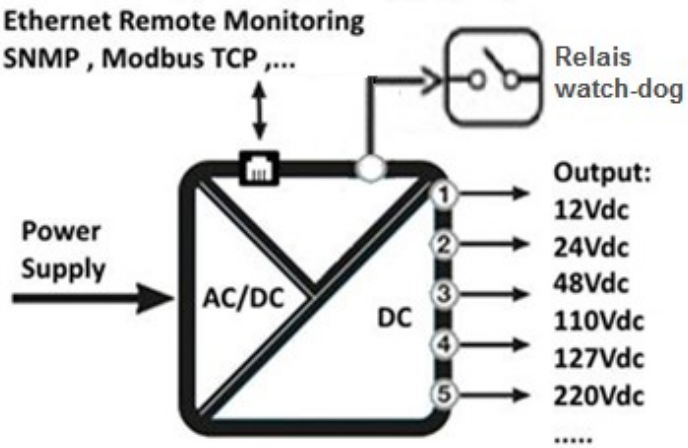
Description:
- SMPS power supply allowing high power density without excessive overheating due to the high efficiency of electronic.
- 1 to 5 isolated outputs allowing serial or parallel coupling, in order to have exotic or symmetric output voltages, or to increase the available output current.

Features:
- DIN rail or surface mounting,
- IP20 Protection rating,
- pluggable screw terminal blocks (6 mm² max),
- conformal coating,
- high resistance to vibration and shock,
- low sensitivity to humidity and dust,
- protected against overload,
- protected against continuous short circuit,
- thermal protection (output power limitation),
- natural convection for AL175L or forced fan cooling for AL175
- embedded EMC filter in accordance with EN55022 class A,
- single output voltage: 5, 12, 15, 24, 30, 48, 72, 110, 127V,.... or symmetric: +/-5 , +/-12 , +/-15, +/-24 ,+/-48V,.....
(Specific customization on request).

Technical specifications:
Output voltage accuracy: +/-2% typical (+/-1% on request).
Line Regulation (input variation): +/-0.5%.
Load regulation (output current variation) : +/-1%.
Noise and ripple : < 100 mVpp (20 MHz bandwidth).
Thermal stability: +/-0.02% / °C.
Holding time of the output: 50 ms typical (230Vac).
Temperature from –20 °C to +60 °C (standard version).
Temperature derating: 2.5% / °C above 55 °C.
Output current limitation: 110%.
Reliability : MTBF of 300 000 hours at 25 °C.

Implementation and installation recommendations
- Primary protection with fuse delayed 8A @230V recommended.
- Be careful with positioning to ensure proper ventilation.
- Keeping a 25mm long space minimum between module.

Synoptic



Version and order code:

Request a quote

AL175(HD) : 1 output, forced fan cooling

Option : **- D :** Internal ORing diode for parallel coupling
- Wd : Output watchdog relay monitoring output voltage
- S2,S3,S4,S5 : 2 to 5 isolated output. (up to 3 for HD version)
- /S : analog output. 4-20mA; 0-10V. Copy of output current
Communication: (monitoring of voltage and current output)
- SNMP: Ethernet link with SNMP protocol
- CMTCP: Ethernet link with Modbus-TCP protocol

AL175L: Natural convection cooling version.

AL175R-WD : 2 internal redundant power supplies (parallel coupling) with 2 relays indicating proper operation of each power supply.

Special versions
AL175FIL : filtered rectified output (applications : motor / contactor)
AL175C : Lead battery charger version.

Power supply

Standard input voltage	85….265 VAC / 120...370 VDC
Input frequency	47….440 Hz
Typical efficiency	>90 %
Power factor	>0.94 @ 230Vac full load
Inrush current	15A typical

Output

Accuracy	+/-3 % max (+/- 1% on request)
Regulation	+/-2 % max. (full load)
Ripple	< 1 % Vout max (limited to 20MHz)
Thermal stability	+/-0.02% /°C typical

Continuous short circuit protection, automatic restart.

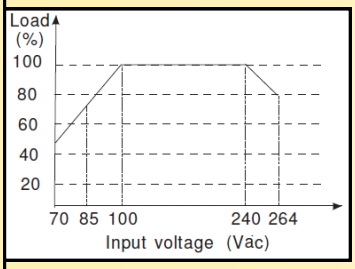
Overload protection	110 % typ.
Switching frequency	60 kHz typ.
Output hold time	50 ms typical.

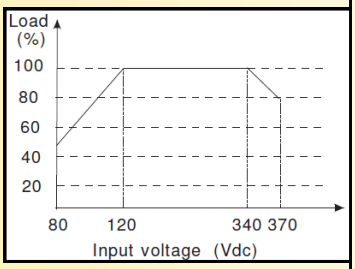
Watchdog relay

Free potential changeover contact

Dielectric strength (isolation)	>2500Vac
impulse withstand voltage (1.2 / 50µ)	6000V
AC switching capacity: 250Vac (400Vac) 6Aac	2000VA
DC switching capacity: 300Vdc 0.3Adc	90W
DC switching capacity: 30Vdc 5Adc	150W

Output power characteristics vs input voltage

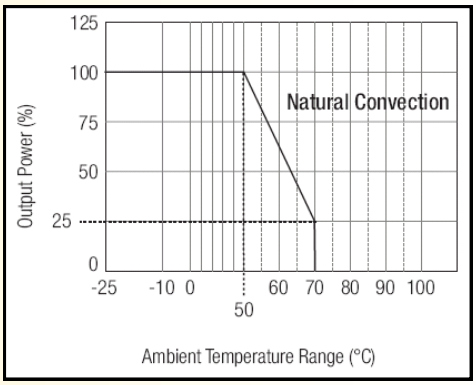




ENVIRONMENT

Operating temperature	-25 °C to 50 °C
Storage temperature	-30 °C to 85 °C
Thermal protection	100 °C internal
Humidity	85 % (not condensed)
Insulation resistance	100 MΩ min.
Dielectric strength	2500 VAC
Weight	2000 g
MTBF (+25 °C)	350 000 hrs (off fan)
Lifetime	> 100 000 hrs

Output power characteristics vs ambient temperature

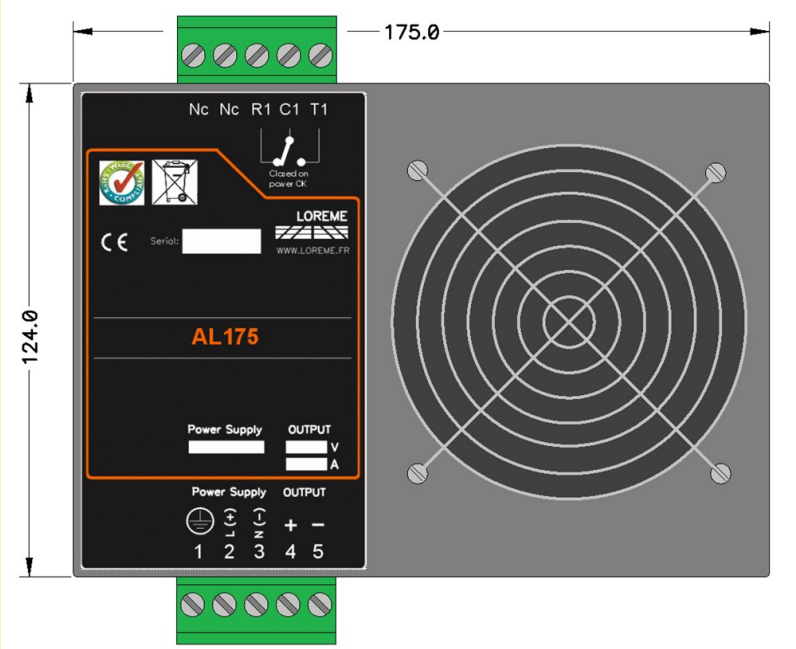


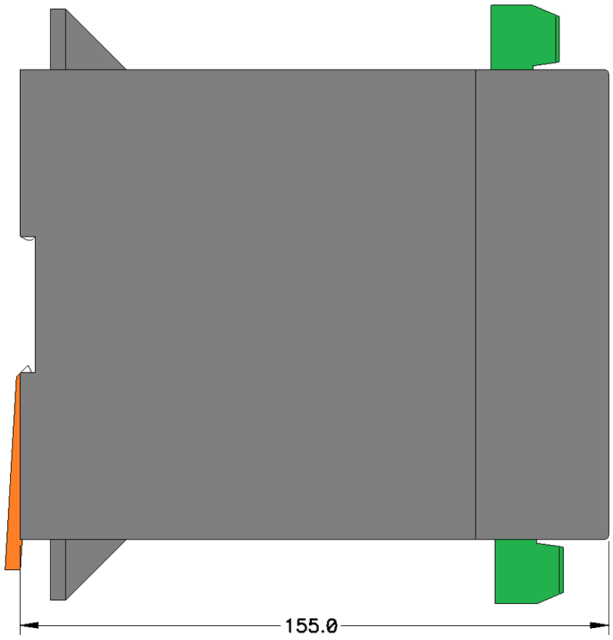
Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	*EN 61000-4-8 AC MF*	*EN 55011*
EN 61000-4-3 RF	*EN 61000-4-9 pulse MF*	
EN 61000-4-4 EFT	*EN 61000-4-11 AC dips*	*group 1 class A*
EN 61000-4-5 CWG	*EN 61000-4-12 ring wave*	
EN 61000-4-6 RF	*EN 61000-4-29 DC dips*	

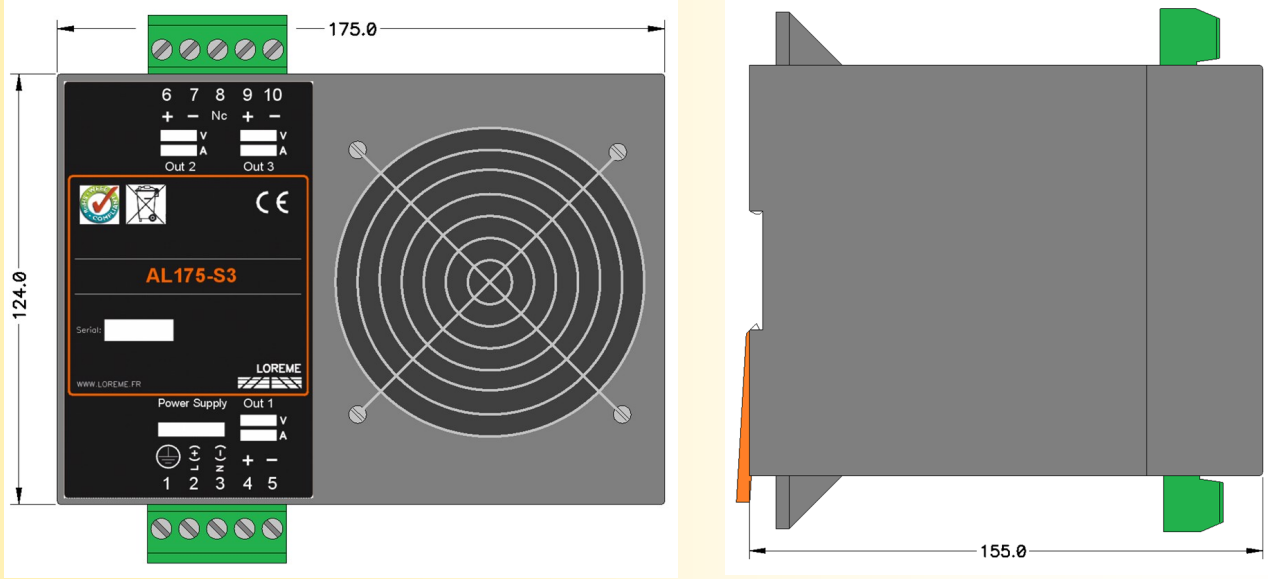
WIRING AND OUTLINE DIMENSIONS:

version: AL175-WD 1 output with watchdog relay

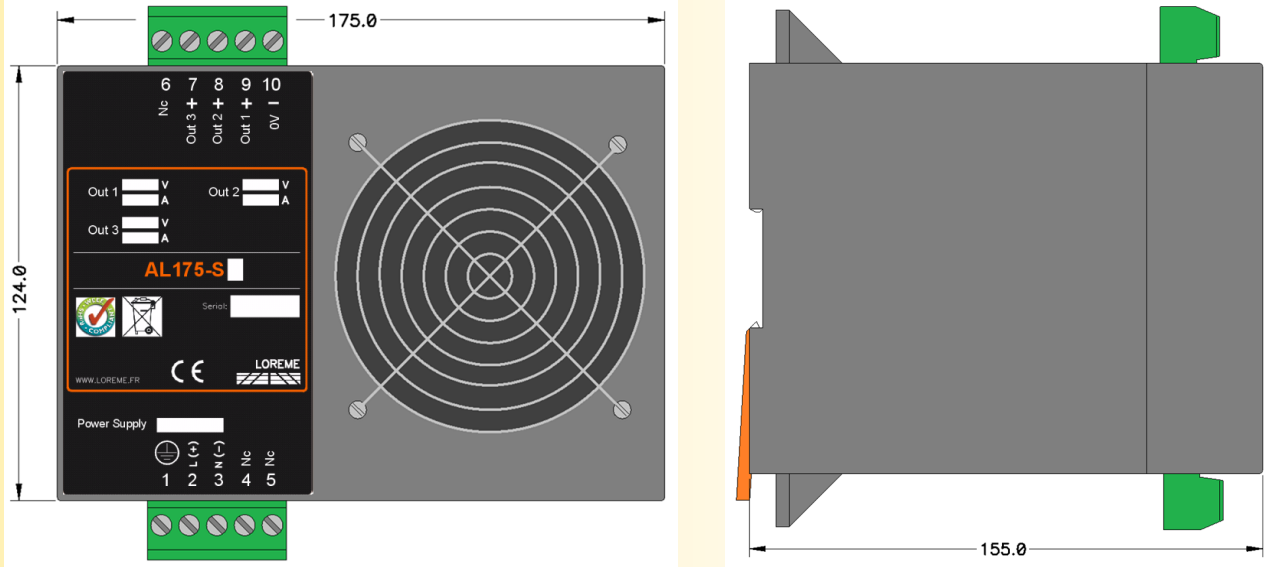




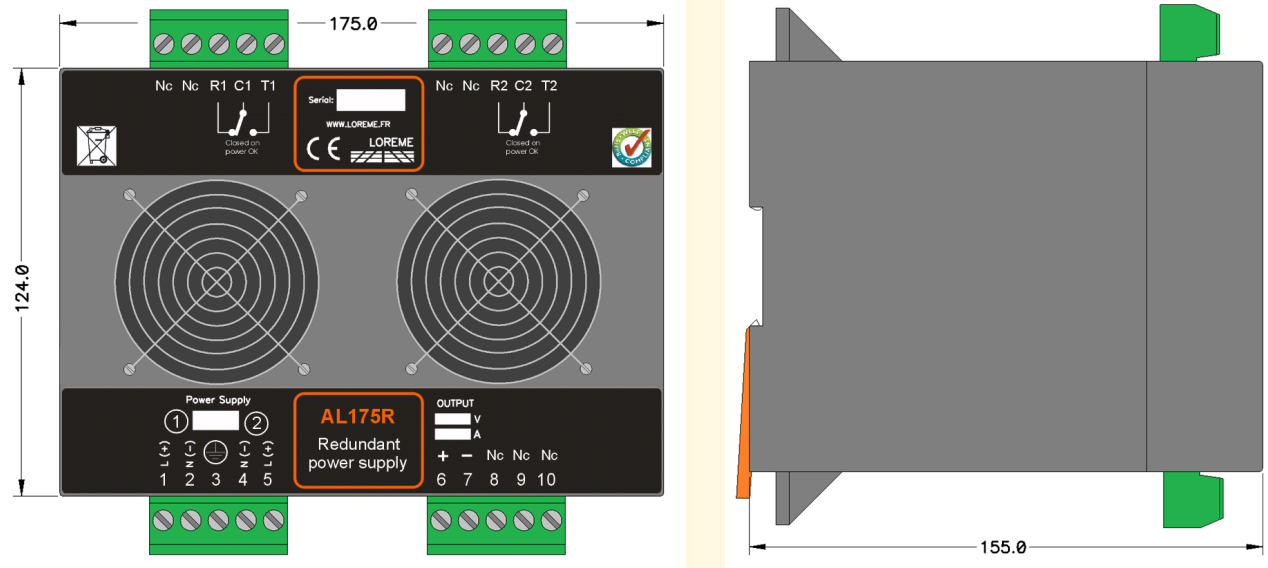
Version : **AL175-S3** 3 isolated outputs



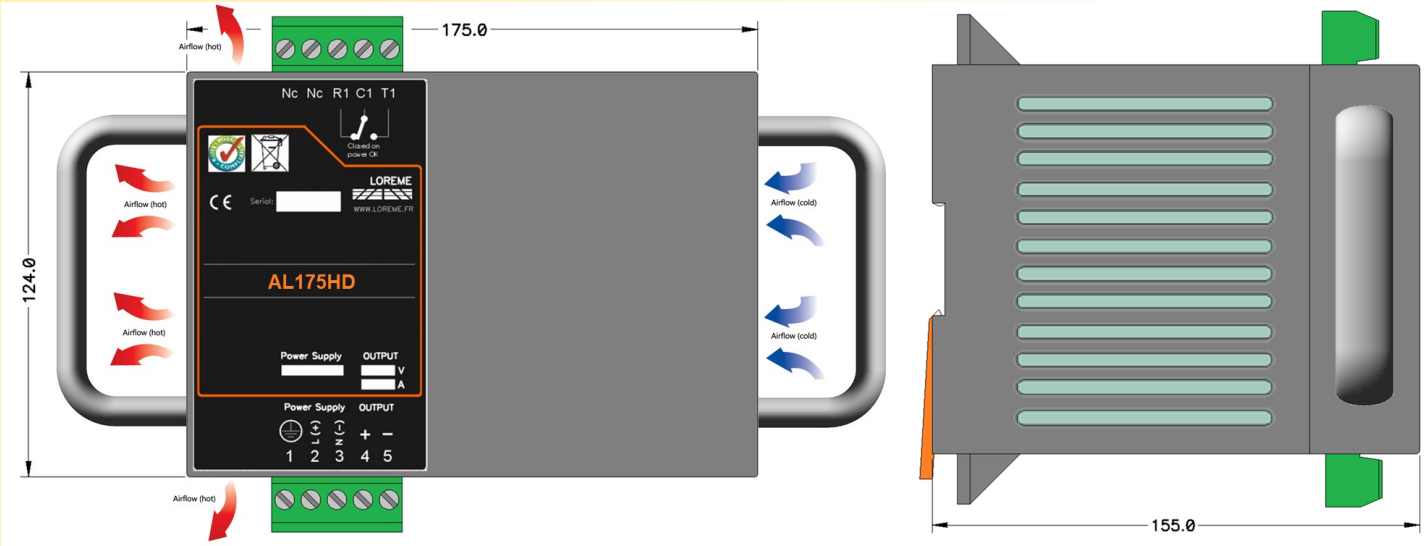
Version : **AL175-S3** 3 outputs with common ground (not isolated outputs)



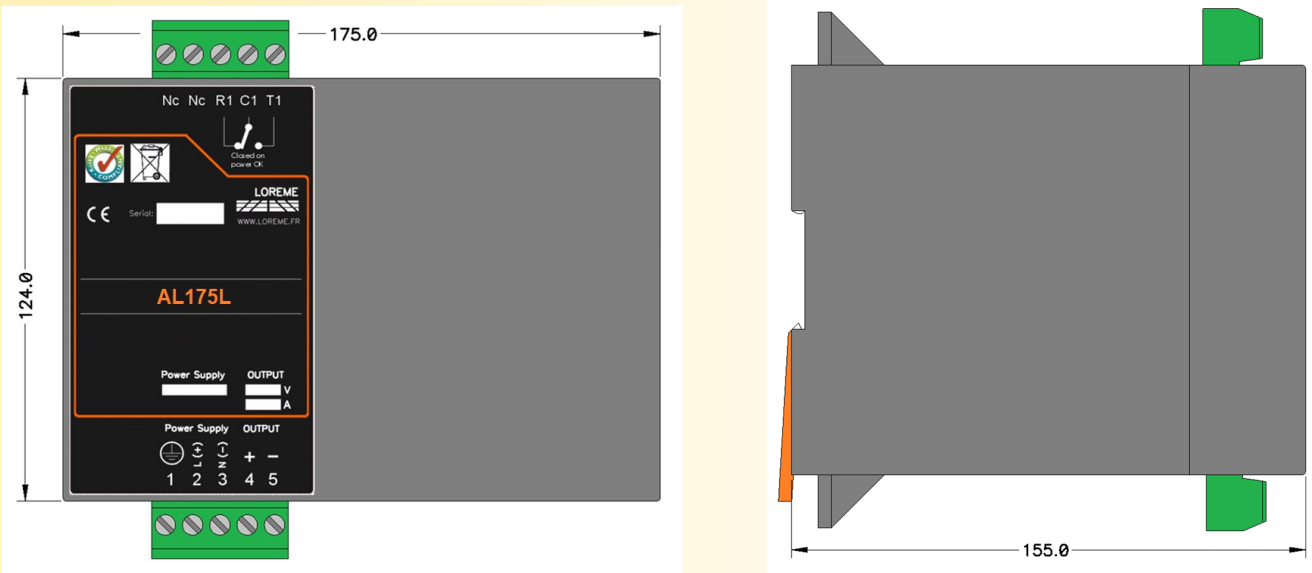
Version : **AL175R-WD** 2 inputs, 1 redundant output and 2 watchdog relays



Version : **AL175HD-WD** High density (internal cooling) 1 output with watchdog relay



Version : **AL175L-WD** Natural convection, 1output with watchdog relay



AL175-WD

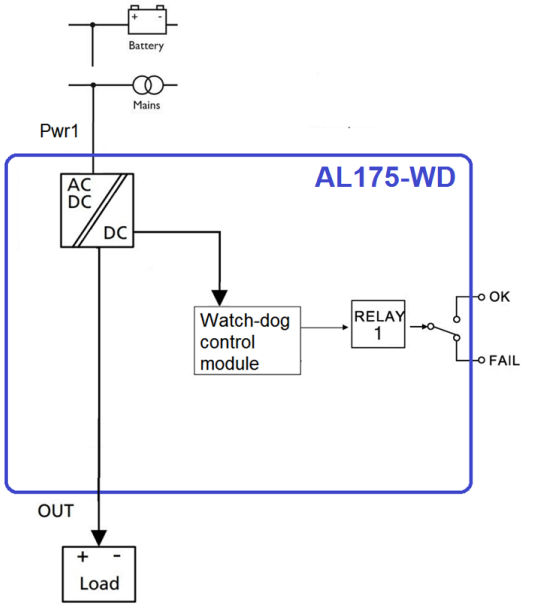
Simple power supply, without redundancy.

with watchdog relay

can be associated with external redundancy modules :

http://www.loreme.fr/fichtech/MPA2_eng.pdf

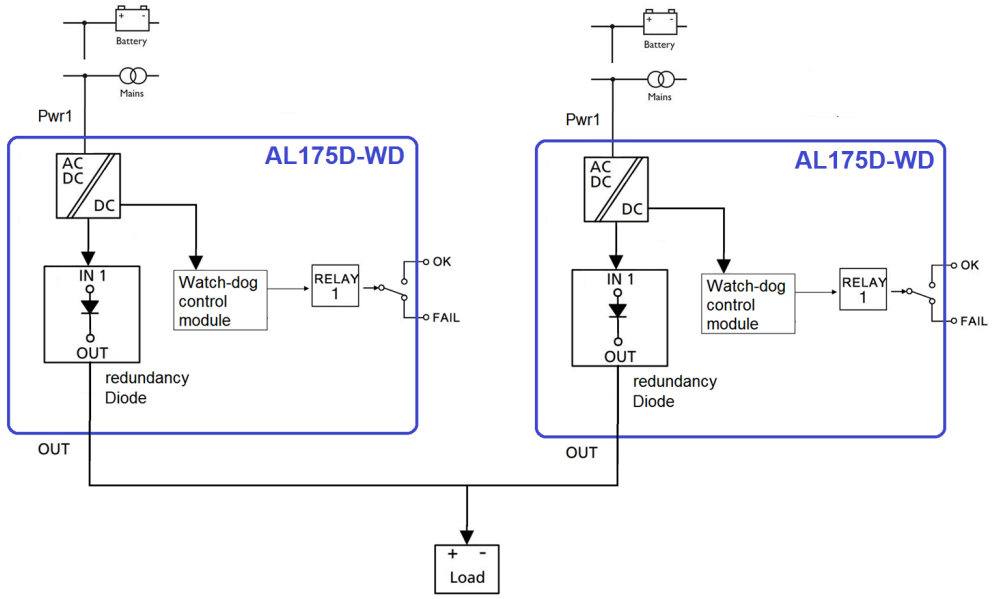
http://www.loreme.fr/fichtech/MPA3_eng.pdf



AL175D-WD

Power supply with internal diode for parallel coupling, with watchdog relay

To ensure the redundancy function (operation with single power supply) : The output power match the power of one supply.



AL175R-WD

Double power supply with redundancy module and 2 watchdog relays

To ensure the redundancy function (operation with single power supply) The output power match the power of one of twos internal supplies