- Direct mounting on 35 mm rail mount acc. to EN 60715 or on panel mounting
- Wide range of ambient temperature: from -25 °C up to +71 °C • Cover - plastic, modular - width 90 mm; for distribution boards and distribution boxes
- Indicator of output voltage presence - green LED (DC OK)
- Cooled by free air flow (convection)
- Applications: in industrial automation, for supplying commercial and industrial appliances and building automation
- Recognitions, certifications, directives: RoHS, CE EAC

Output circuit

Rated output voltage		24 V DC
Output voltage tolerance		± 2% (initial set point tolerance from factory)
Output voltage adjustment range		22...24 V DC
Output current		3,8 A
Rated output power		91,2 W
Line regulation		< 0,5% 90...264 V AC, 100% load
Load regulation		< 1% 90...264 V AC, 0...100% load
PARD (20 MHz) ❶		< 100 mVpp
Rise time		< 70 ms rated voltage, 100% load
Start-up time		< 2 000 ms rated voltage, 100% load
Hold-up time		> 10 ms 115 V AC > 60 ms 230 V AC, 100% load
Dynamic response		± 5% 10...100% load
Start-up with capacitive loads		max. 3 000 µF

Input circuit

Rated input voltage		100...240 V AC 125...375 V DC
Input voltage range		90...264 V AC
Rated input frequency		50...60 Hz
Input frequency range		47...63 Hz
Input current		< 2,2 A 115 V AC < 1 A 230 V AC
Efficiency at 100% load		> 87% 115 V AC > 89% 230 V AC
Max. inrush current		< 30 A 115 V AC < 60 A 230 V AC
Power factor		conform to EN 61000-3-2, Class A
Leakage current		< 0,25 mA 240 V AC

General data

Dimensions (L x W x H)		91 x 90 x 55,6 mm
Weight		350 g
Ambient temperature	• storage	-25...+85 °C
	• operating	-25...+71 °C
Power de-rating		> 55 °C de-rate power by 2,5% / °C
Relative humidity		5...95% (non-condensation and/or icing)
Operating altitude		0...2 000 m
Shock resistance		IEC 60068-2-27, half sine wave: 4G for a duration of 22 ms, 3 shocks for each 3 directions, 9 times in total
Vibration resistance		IEC 60068-2-6, sine wave: 10...500 Hz at 19,6 m/s² (peak: 2G), 10 min. per cycle, 60 min. for all directions (X, Y, Z)
Overvoltage category		II
Insulation pollution degree		2
Galvanic isolation	• input - output	3 000 V AC

Protections

Overvoltage	< 34,8 V SELV output, Latch-off mode ❷
Overload / overcurrent	> 102...108% of rated load current, Fold Forward mode ❹
Overtemperature	> 75 °C ambient temperature, 100% load, Latch-off mode ❷
Short circuit	Hiccup mode ❸
Cover protection category	IP 20 EN 60529
Protection against shock	Class II (double insulation) ❺

❶ PARD (20 MHz): Periodic and Random Deviation from the power supply's output DC voltage measured at 20 MHz bandwidth. ❷ Latch-off mode: disconnecting the output voltage, restore correct operation after restarting. ❸ Hiccup mode: non-latching, auto-recovery when the fault is removed. ❹ Fold Forward mode: current rises, voltage drops. ❺ Connection of PE protective wire is not required.

Reliability data

MTBF (mean time between failures)	> 500 000 h Telcordia SR-332, I/P: 100 V AC, O/P: 100% load, Ta: 35 °C
Expected lifetime of capacitors	10 years 115 V AC, 230 V AC, 50% load, 40 °C

Safety standards, directives

Electrical safety	EN 60950-1, Limited Power Source (LPS)
CE	EMC Directive 2014/30/EU Low Voltage Directive 2014/35/EU
Material and parts	RoHS Directive 2011/65/EU

EMC according to Directive 2014/30/EU

EMC (emissions)	CISPR 32, EN 55032, FCC Title 47: Class A ❽
Immunity to:	EN 55024
• electrostatic discharge (IEC 61000-4-2)	level 3, criteria A ❻ air discharge: 8 kV, contact discharge: 4 kV
• radiated field (IEC 61000-4-3)	level 2, criteria A ❻ 80 MHz...1 GHz, 3 V/M with 1 kHz tone / 80% modulation
• electrical fast transient / burst (IEC 61000-4-4)	level 3, criteria A ❻ 1 kV
• surge (IEC 61000-4-5)	level 3, criteria A ❻ common mode: 2 kV, differential mode: 1 kV ❼
• conducted (IEC 61000-4-6)	level 2, criteria A ❻ 150 kHz...80 MHz, 3 Vrms
• power frequency magnetic fields (IEC 61000-4-8)	criteria A ❻ 1 A/m
• voltage dips (IEC 61000-4-11)	> 95% dip, 0,5 cycle (10 ms)
Harmonic current emission	IEC/EN 61000-3-2, Class A
Voltage fluctuation and flicker	IEC/EN 61000-3-3

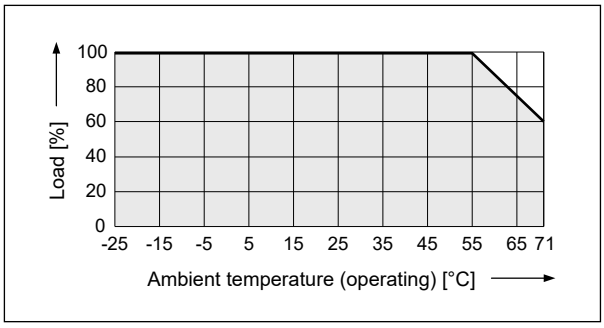
❻ Criteria A: normal performance within the specification limits. ❼ Common mode: asymmetrical (line to earth); differential mode: symmetrical (line to line). ❽ Warning: this is a Class A product. In a residential, commercial or light industrial environment it may cause radio interference. This product is not intended to be installed in a residential environment; in a commercial and light industrial environment with connection to the public mains supply, the user may be required to take adequate measures to reduce interference.

Mounting

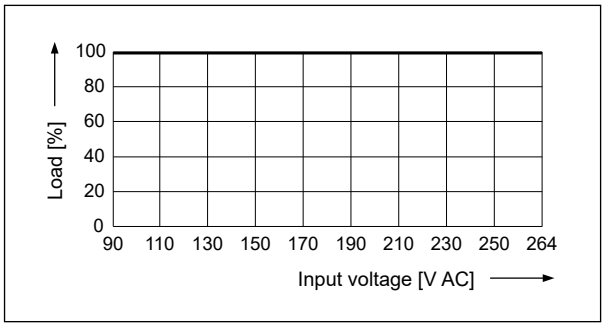
Power supplies **RZI100-24-M** ❾ are designed for direct mounting on 35 mm rail mount acc. to EN 60715 or on panel mounting with two M3 screws - they are delivered ready to install. Operational position - input terminals downwards. **Connections:** conductor cross section: 1 piece - 0,34...4,0 mm² (22...12 AWG), 2 pieces - 0,25...4,0 mm² (24...12 AWG), input terminals: 2 screws M4 (25 A / 300 V), output terminals: 4 screws M4 (25 A / 300 V).

❾ Safety instruction for mounting: to guarantee sufficient convection cooling, keep a distance of 50 mm above and below the device as well as a lateral distance of 25 mm to other units.

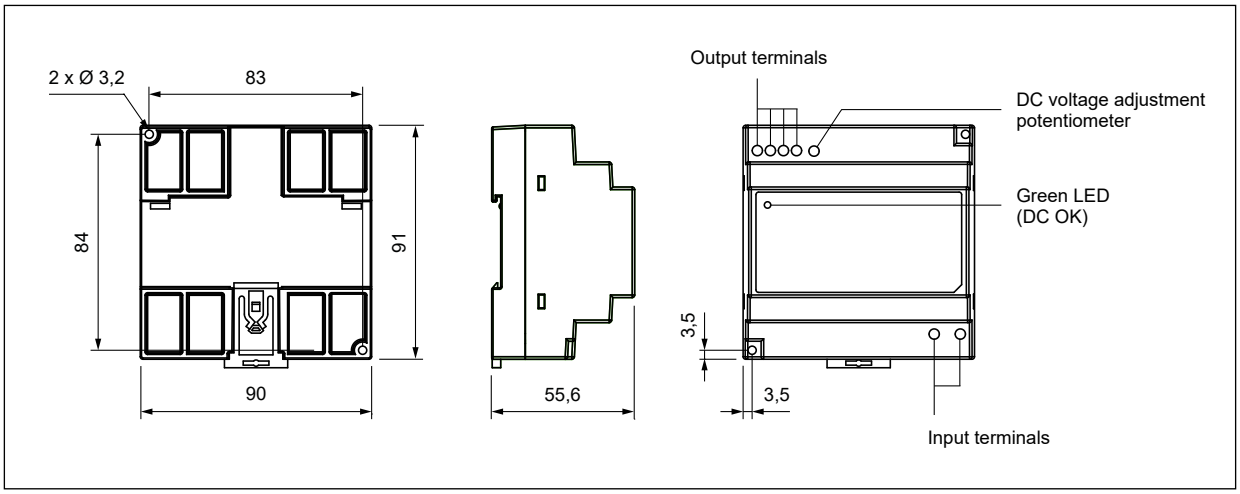
De-rating for vertical mounting orientation. > 55 °C de-rate power by 2,5% / °C Fig. 1



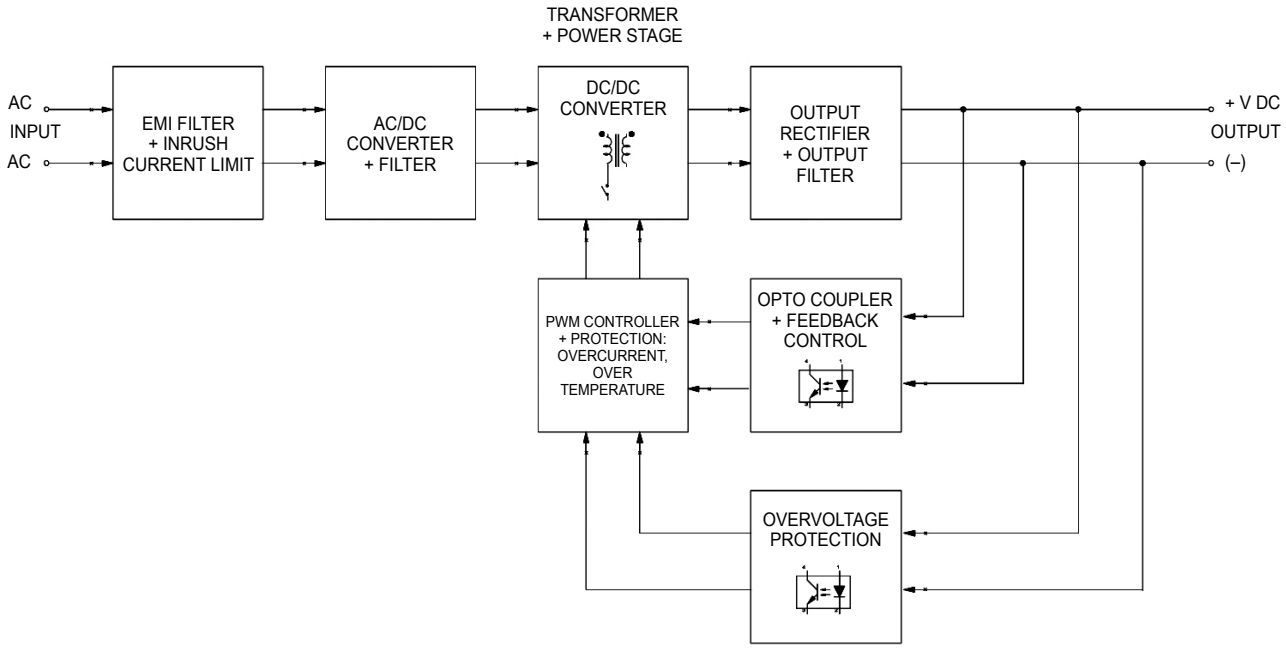
Output de-rating depending on input voltage Fig. 2



Dimensions



Block diagram



ATTENTION:
All parameters are specified at 25 °C ambient unless otherwise indicated.
Data sheet to be used only together with "Power supplies - basic information" available at www.relpol.com.pl

PRECAUTIONS:
1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.