



TECHNICAL MANUAL

Power supply DR-M
5V/12V/24V/48V



1 DESCRIPTION

The power supply DR-M EKF is a switched-mode power supply that converts AC input voltage into a stabilized DC voltage.

The power supply features overload, overheating and short circuit protection.

Table 1

Item code	Name
DR-M-20W-5	DIN rail power supply 20W 220V AC/5V DC
DR-M-20W-12	DIN rail power supply 20W 220V AC/12V DC
DR-M-20W-24	DIN rail power supply 20W 220V AC/24V DC
DR-M-40W-5	DIN rail power supply 40W 240V AC/5V DC
DR-M-40W-12	DIN rail power supply 40W 220V AC/12V DC
DR-M-40W-24	DIN rail power supply 40W 220V AC/24V DC
DR-M-60W-5	DIN rail power supply 60W 220V AC/5V DC
DR-M-60W-12	DIN rail power supply 60W 220V AC/12V DC
DR-M-60W-24	DIN rail power supply 60W 220V AC/24V DC

2 TECHNICAL DATA

The main technical data are listed in Table 2.

Table 2

Parameters / Values		DR-M-20W			DR-M-40W			DR-M-60W			
Output	Output power, W	15	20	30	40	50	60				
	Rated output voltage, V DC	5	12	24	5	12	24	5	12	24	
	Output voltage range, %	+/-10									
	Rated output current, A	3	1,67	1	6	3,33	1,7	10	5	2,5	
	Output voltage time, ms	500; 30 / 230V AC 1000; 30 / 115V AC									
	Maximum output voltage error, %	+/-2	+/-1	+/-1	+/-2	+/-1	+/-2	+/-1			
	Maximum output noise level, mVp-p	80	120	150	80	120	150	80	120	150	
	Efficiency, %	76	80	84	76	80	81	76	80	81	
Input	Input voltage, V	85-264 AC / 40-370 DC									
	Input frequency, Hz	47 - 63									
	Inrush current, A	20A/115V AC 40A/230V AC			30A/115V AC 60A/230V AC			30A/115V AC 60A/230V AC			

Table 2 continued

Parameters / Values		DR-M-20W	DR-M-40W	DR-M-60W
Protection	Oversvoltage protection, %	120-140		
	Overload trip threshold, %	105-160		
Electrical safety	Breakdown voltage input/output, kV	1,5		
	Breakdown voltage input/ground, kV	1,5		
	Breakdown voltage output/ground, kV	0,5		
	Insulation resistance, MOhm	100 at 500 V DC		
Operation environment	Operating temperature, °C	-10 ... +60		
	Vibration	10-500 Hz, 2G 10 min / 1 cycle, 60 min duration, for each axis X, Y, Z		
Other	Degree of protection (front panel side)	IP20		
	Indication, green LED	ON- normal operation, flashing - protection activated		

3 OVERALL DIMENSIONS

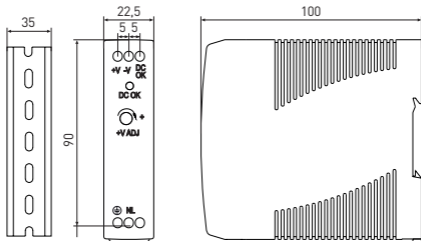


Fig. 1 - DR-M-20W-5/12/24 overall dimensions

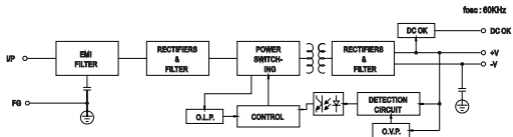


Fig. 2 - DR-M-20W-5/12/24 flow chart

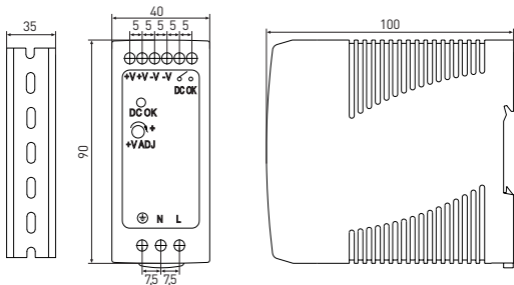


Fig. 3 - DR-40W-5/12/24, DR-60W-5/12/24 overall dimensions

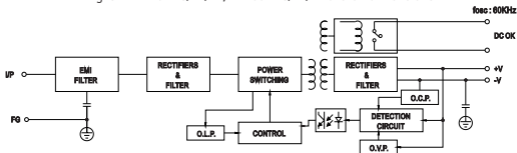


Fig. 4 - DR-M-40W-5/12/24, DR-M-60W-5/12/24 flow chart

4 INSTALLATION AND OPERATION

The device shall be mounted and connected by qualified electrical personnel.

The power supply in plastic case is mounted onto DIN rail and secured with a lock.

Ventilation holes on the housing bottom and top serve to dissipate heat generated during operation.

Install the power supply, connect it to load, match polarity of the devices.

To adjust output voltage of the unit, turn the "CONTROL" resistor clockwise to increase the voltage, counter-clockwise to decrease it.

To connect to the primary network and the load, the unit is equipped with two groups of terminal clamps (for a 40W and 60W screw).

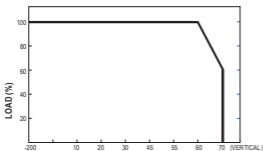


Fig. 5 - Load demand vs ambient temperature

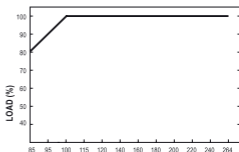


Fig. 6 - Load demand vs Input voltage

5 DELIVERY SCOPE

1. Power supply – 1 pc.;
2. Technical manual - 1 pc.

6 SAFETY REQUIREMENTS

Do not operate power supplies with visible mechanical damage.

By protection method against electric shock, power supplies belong to protection class II according to IEC 61140.

For maintenance, follow national safety rules for operation of electrical installation.

Life hazardous voltage is present at the exposed contacts of the

unit terminals during operation. Install power supplies in dedicated enclosures and cabinets, access to which is allowed only to qualified personnel.

Make sure the power is off before installation and maintenance!

7 MAINTENANCE

Under normal operating conditions, visually inspect the power supplies and tighten screw terminals (may be loosen due to changes in the ambient temperatures and material properties) every 6 months.

Do not operate the power supply with damaged housing.

8 TRANSPORTATION AND STORAGE

Power supplies can be transported by any means of enclosed transport that protects the packaged goods from mechanical impact and weather exposure.

DIN rail power supplies shall be stored in the original package indoors at the ambient temperature from $-40\text{ }^{\circ}\text{C}$ to $+95\text{ }^{\circ}\text{C}$ and relative humidity of max. 80% at $+25\text{ }^{\circ}\text{C}$.

9 DISPOSAL

Life-expired and failed power supplies shall be disposed of in compliance with the national and local laws and regulations in force. To dispose of the product, send it to an authorized company for recycling in compliance with the national and local laws and regulations in force.

10 MANUFACTURER'S WARRANTY

The manufacturer guarantees the products comply with the declared characteristics, provided that consumers follow the operation, transportation and storage conditions.

Warranty period: 24 months from the date of sale specified in the sales receipt.

Shelf life: 36 months from the date of manufacture specified on the product package or housing.

Service life: 10 years.

Manufacturer: For information, refer to the product package.

Importer and EKF trademark service representative: EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

Importer and EKF trademark service representative on the territory of the Russian Federation: OOO «Electroresheniya», Otradnaya st., 2b bld. 9, 5th floor, 127273, Moscow, Russia. Tel.: +7 (495) 788-88-15.

Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan: TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

11 CERTIFICATE OF ACCEPTANCE

The power supply DR-M EKF has been manufactured in compliance with laws and regulations in force and has been approved for operation.

Date of manufacture: for information, refer to the product package.

Quality control stamp



EAC



v3

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EFVEE