

AC/DC power supplies

KWant Family KWant75 NEW, 75 W



Basic specifications

| | |
|----------------------------------|---------------------------------------|
| Power | 75 W |
| Input current | up to 15 A |
| Input voltage | 220 (100...264) VAC |
| Output voltage | 5 VDC, 12 VDC, 15 VDC, 24 VDC, 28 VDC |
| Efficiency..... | 88-93 % |
| Ambient operating temperature .. | -40...+85 °C; -50...+85 °C |
| Dimensions | 61×111×25 mm |
| Warranty | 2 years |

Advantages

- ◀ MIL-STD-461E without external components
- ◀ MIL-STD-810G
- ◀ Low ripple level of 40 mV (at Uout=28 VDC)
- ◀ Low level of conducted emissions

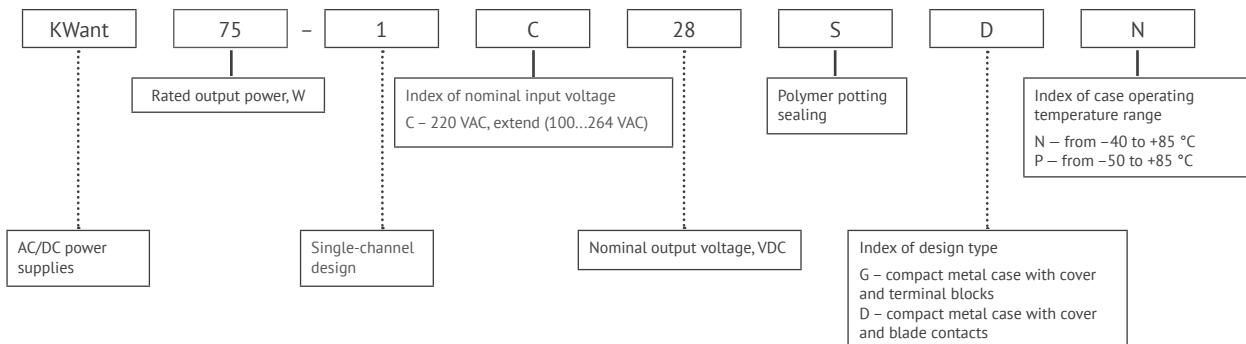


Description of KWant75 on the manufacturer's website:
eng.kwsystems.ru/catalog/acdc/models/4

Order registration
+7 473 200 87 80, Global Operations Team

Technical support
techsupport@kwsystems.ru

Ordering information



Input specifications*

| Parameter | Value | | | | |
|--|-------|---------------------------|--|--|--|
| Input voltage range, VAC** | C | 100...264 (141...372 VDC) | | | |
| Transient deviation range, VAC | C | 100...264 | | | |
| Transient time | C | - | | | |
| Mains frequency range, Hz | C | 47...53 | | | |
| Consumed current, A | | <1 | | | |
| I ² t (Joule integral) for pulse-type current | | 50 | | | |
| Pre-fuse | | Slow blow 3 A | | | |

Output specifications*

| Parameter | Value | | | | |
|-------------------------------------|-------|------|---------|------|------|
| Nominal output voltage, VDC | 5 | 12 | 15 | 24 | 28 |
| Efficiency, % | 88 | 91 | 92 | 93 | 93 |
| Rated output current, A | 15 | 6.25 | 2 | 3.12 | 2.68 |
| Ripple and noise (peak-to-peak), mV | <30 | <60 | <25 | <40 | <40 |
| Line and load regulation, % | max 1 | | max 0.5 | | |
| Start-up time, ms | <50 | | | | |
| Maximum load capacity, μ F | 15000 | 7800 | 5000 | 2000 | 1660 |

Protections

| Type of protection | | | | | |
|------------------------------|---|--|--|--|--|
| Short-circuit protection* | auto recovery | | | | |
| Overload protection | Pmax<1.8 Pnom | | | | |
| Oversupply protection level* | <125% Uout nom. | | | | |
| Overheat protection | triggers at case temperature > 100 ± 3 °C | | | | |

* All specifications are valid for normal climatic conditions (ambient temp. +15...+35°C; relative humidity 45...80%; air pressure 8.6*104...10.6*104 Pa), Uin. nom., Iout. nom., unless otherwise noted.

** Maximum output power for input voltage range C (wide range) at Uout 100...187 VDC is reducing according to power derating VS input voltage diagram.

Basic specifications**

| | 5 | 12 | 15 | 24 | 28 | |
|-----------------------------------|------------------------------------|--------------|-----------|-----------|-----------|--|
| Nominal output voltage, VDC | | | | | | |
| Type of connection | screw terminals and blade contacts | | | | | |
| Protection level | IP20 | | | | | |
| Case temperature, operating | «N» | -40...+85 °C | | | | |
| | «P» | -50...+85 °C | | | | |
| Case temperature, storage | -60...+70 °C | | | | | |
| Humidity | 95% / 25 °C | | | | | |
| Isolation voltage | in /case | 1500 VAC | | | | |
| | in /out | 1500 VAC | | | | |
| | out /case, out/out | 500 VAC | | | | |
| Isolation resistance @ 500 VDC | ≥ 20 MΩ min | | | | | |
| Cooling | convective | | | | | |
| Environmental influence standards | design to meet MIL-STD-810G | | | | | |
| Operational height | up to 35000 m/115000 ft | | | | | |
| EMC standards | MIL-STD-461E | | | | | |
| Thermal resistance case-ambient | 6.4 °C / W | | | | | |
| Typical MTBF, Hrs | 800 000 | 2 000 000 | 2 000 000 | 2 400 000 | 2 400 000 | |
| Case material | metal | | | | | |
| Dimensions, mm (W×D×H) | 111×61×25 | | | | | |
| Weight, kg | < 0.3 | | | | | |
| Warranty | 2 year | | | | | |

Terminal specification, input/output

| | |
|--|-----------|
| Cross section of the flexible conductor, mm ² (max) | 0.5...1.5 |
| Cross section of AWG conductor, min | 28 |
| Cross section of AWG conductor, max | 12 |
| Strip length, mm | 6 |

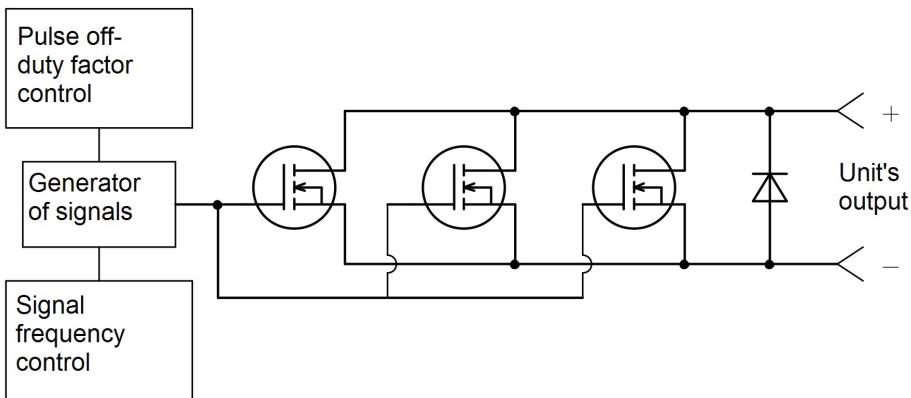
Environmental conditions

| Item | Environmental specification, units | Value |
|-------------------------|---|-------------------|
| Sinusoidal vibration | Frequency range, Hz | 1-500 |
| | Acceleration amplitude, m/sec ² (g) | 50 (5) |
| | Vibratory displacement amplitude, mm | 0.5 |
| Single mechanical shock | Peak shock acceleration, m/sec ² (g) Duration of shock acceleration, msec | 1000 (100) 1-2 |

* Parameters are stated for the information purposes and could not be used at long term work, exceeding maximum output current, operating outside of a working temperatures range or when output voltage is over the range of adjustment.

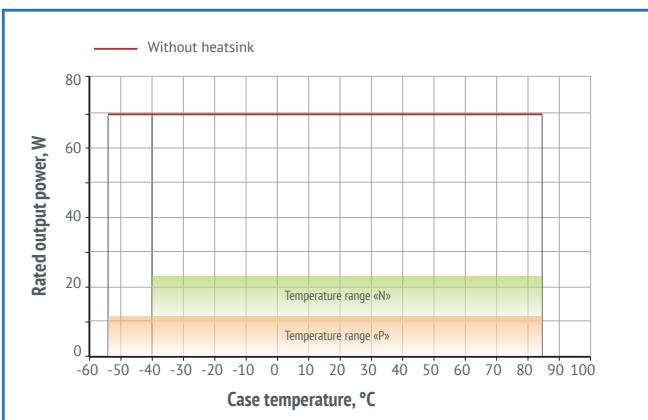
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Block diagram for short-circuit debugging

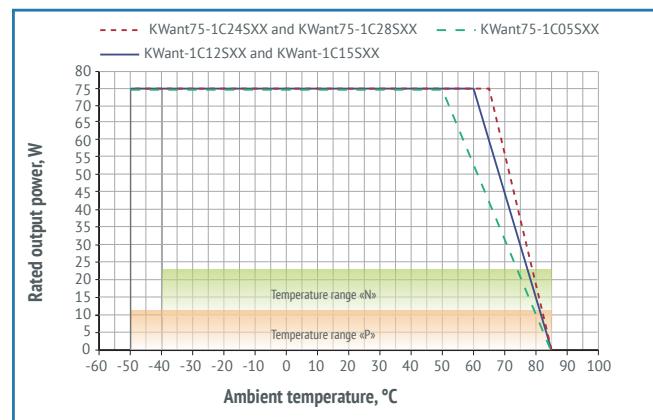


Derating

vs Temperature

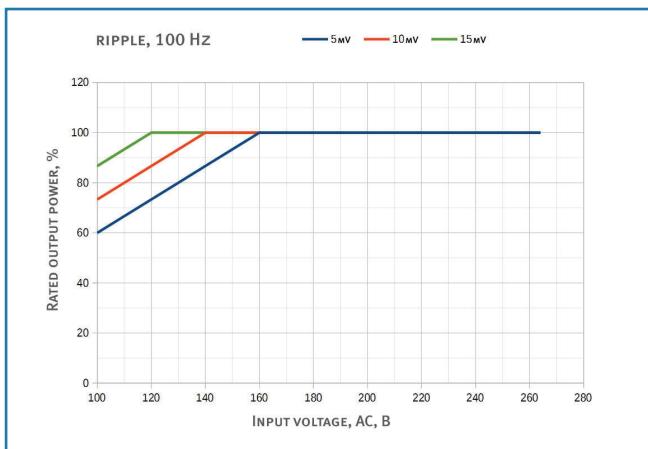


Power derating vs ambient temperature at nominal input voltage 220 VAC for KWant75-1C24SXX and KWant75-1C28SXX.

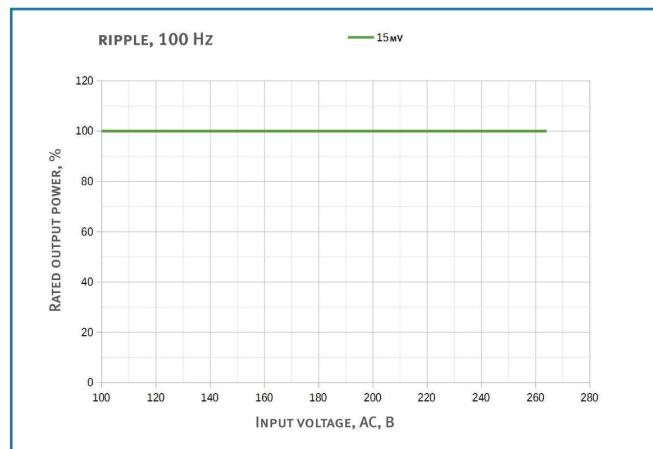


Power derating vs ambient temperature at nominal input voltage 220 VAC for KWant75-1C05SXX.

vs Input Voltage

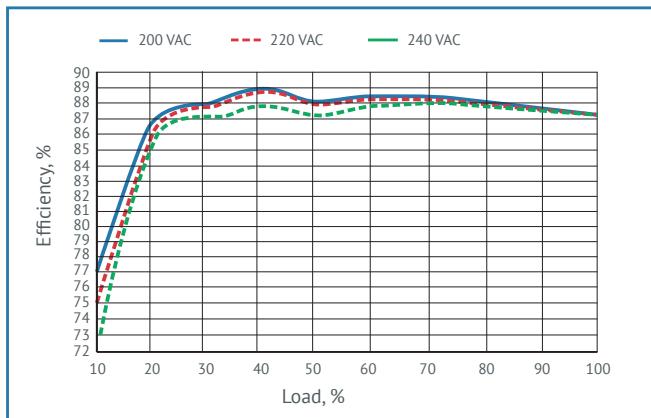


Power derating vs input voltage at ambient temperature -50°C for KWant75-1C24SXX and KWant75-1C28SXX

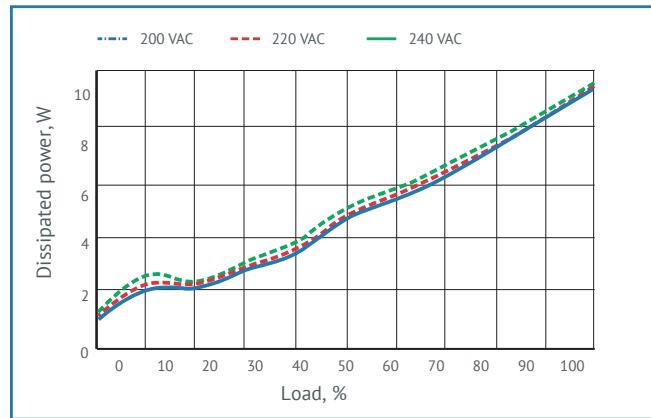


Power derating vs input voltage at ambient temperature -40°C for KWant75-1CXXSXP

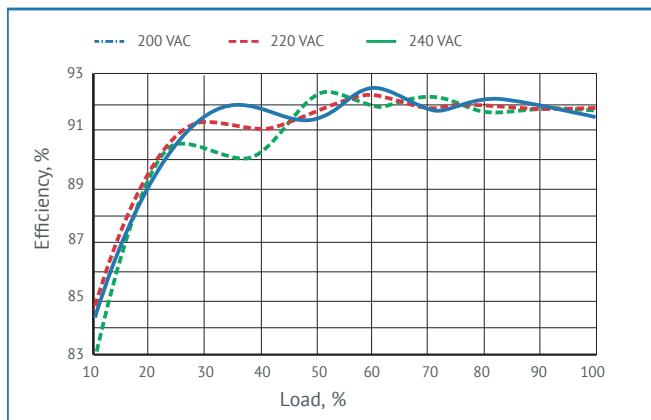
Efficiency



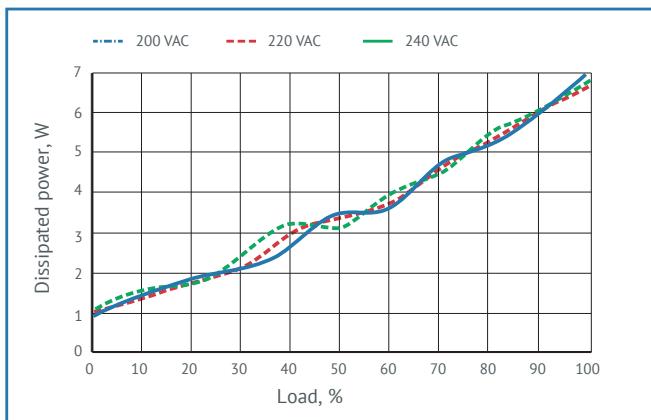
Efficiency vs output load for KWant75-1C05SXX



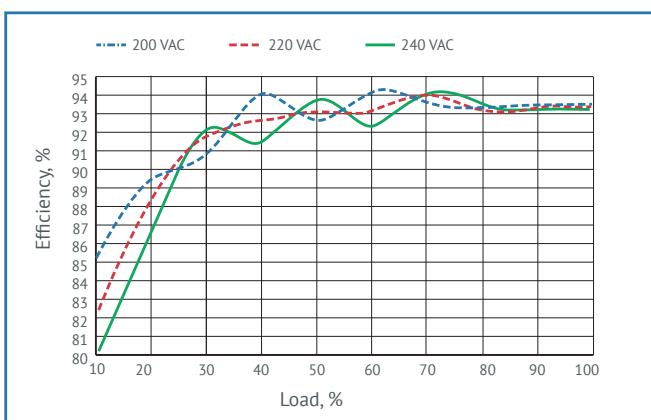
Output power vs output load for KWant75-1C05SXX



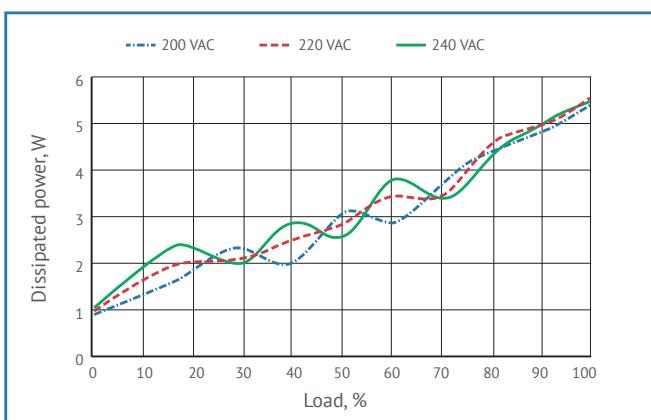
Efficiency vs output load for KWant75-1C12SXX and KWant75-1C15SXX



Output power vs output load for KWant75-1C12SXX and KWant75-1C15SXX

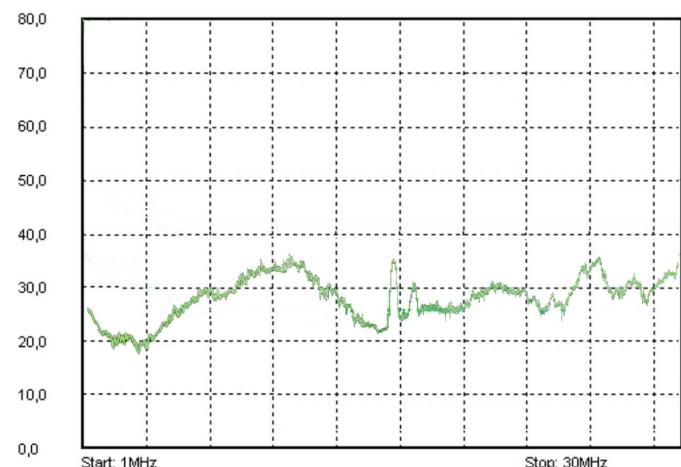
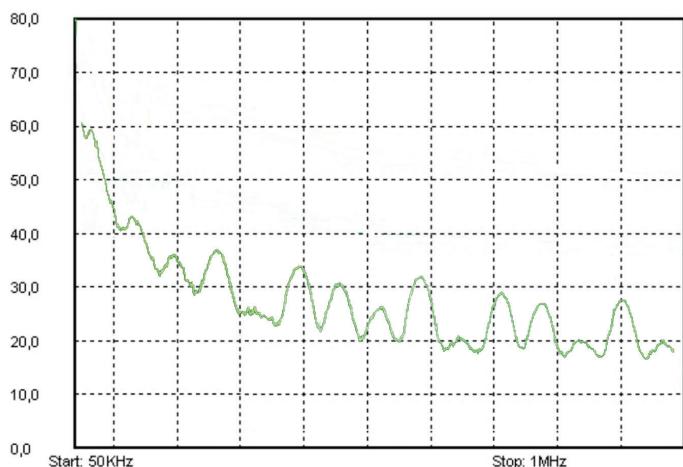


Efficiency vs output load for KWant75-1C24SXX and KWant75-1C28SXX.



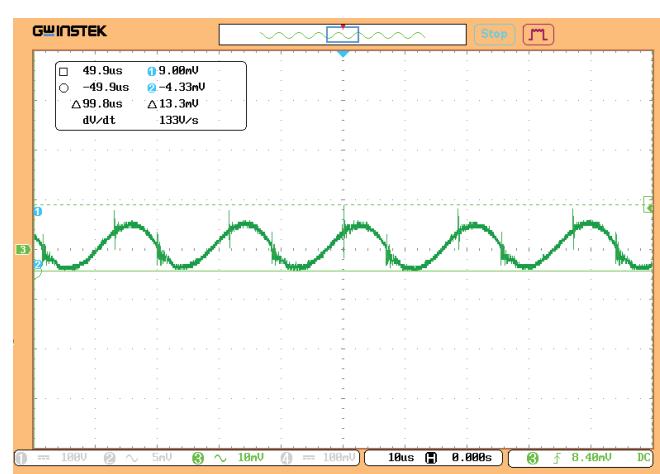
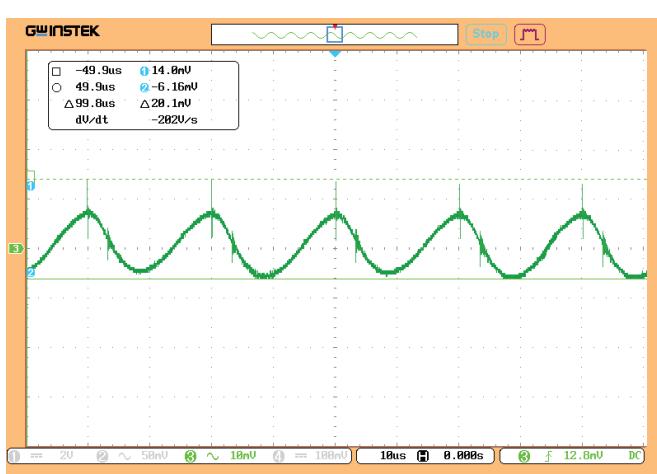
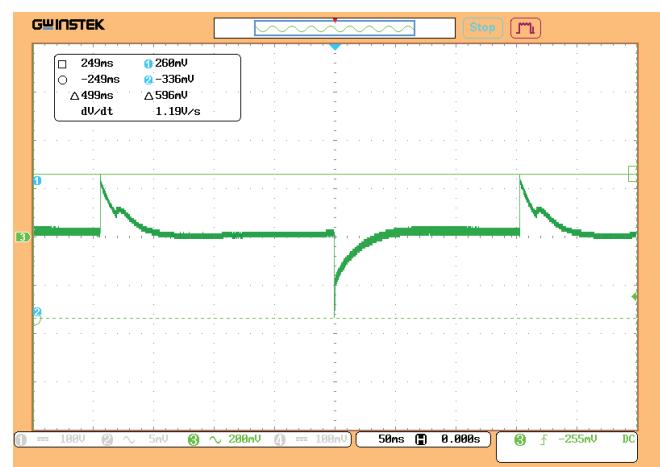
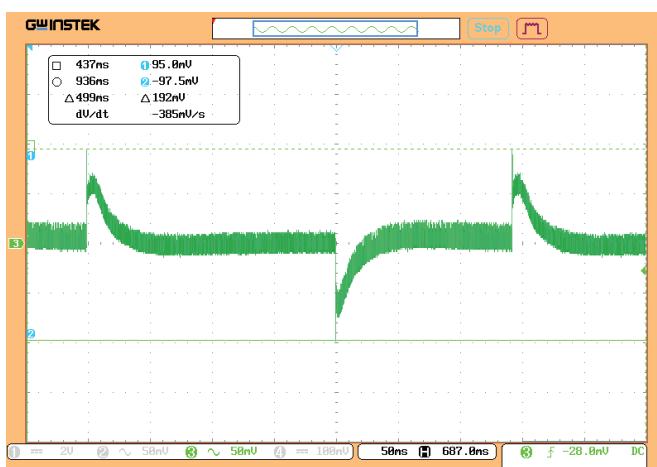
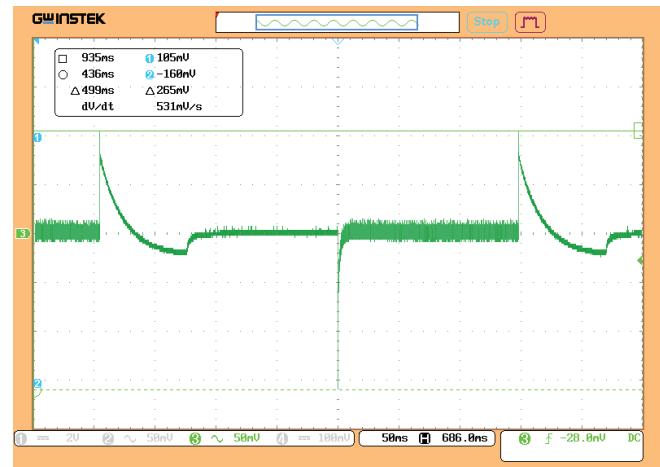
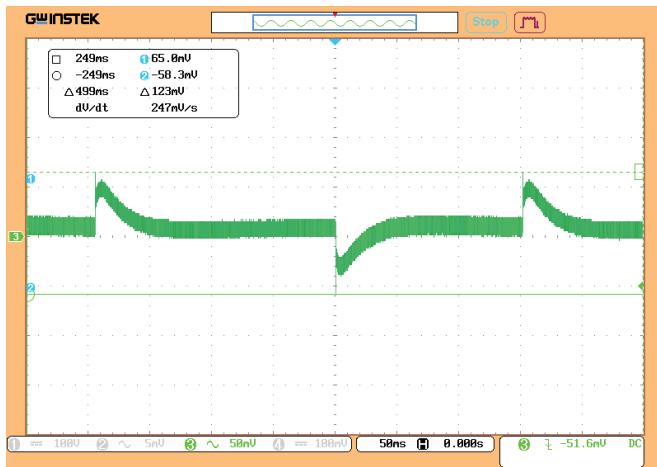
Output power vs output load for KWant75-1C24SXX and KWant75-1C28SXX.

EMC spectrograms



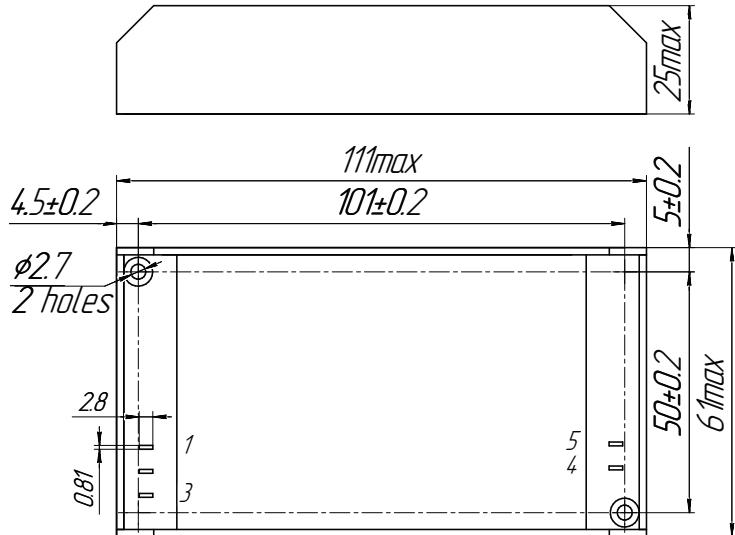
EMC spectrograms KWant75-1C28SGX.

Oscillograph charts



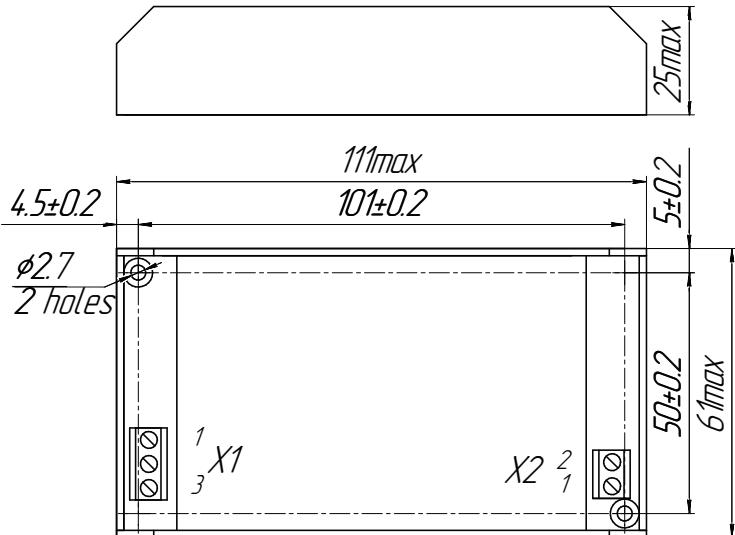
Dimensions

Single-channel design with blade contacts



| PIN # | 1 | 2 | 3 | 4 | 5 |
|----------------|---|---|---|--------|--------|
| SINGLE-CHANNEL | L | N | ⏚ | +OUT 1 | -OUT 1 |

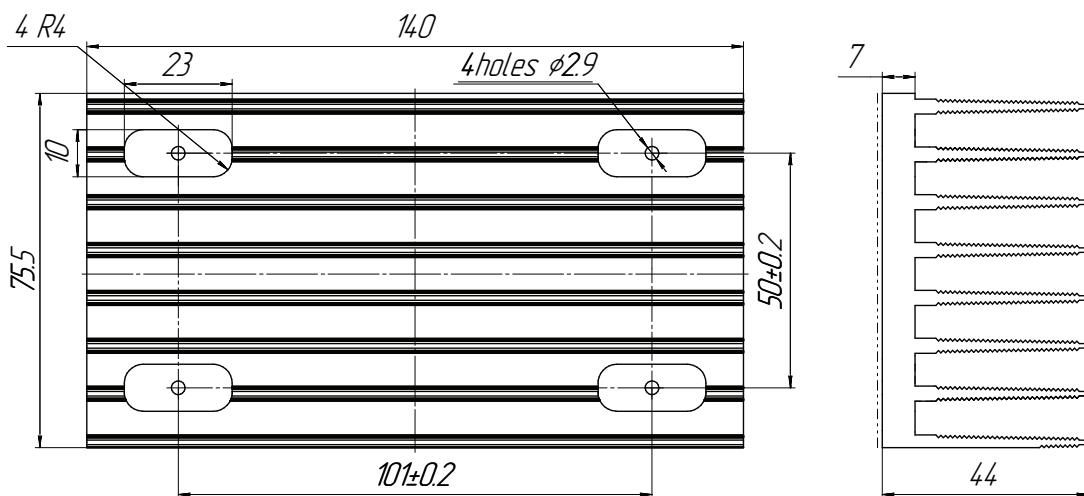
Single-channel design with terminal blocks



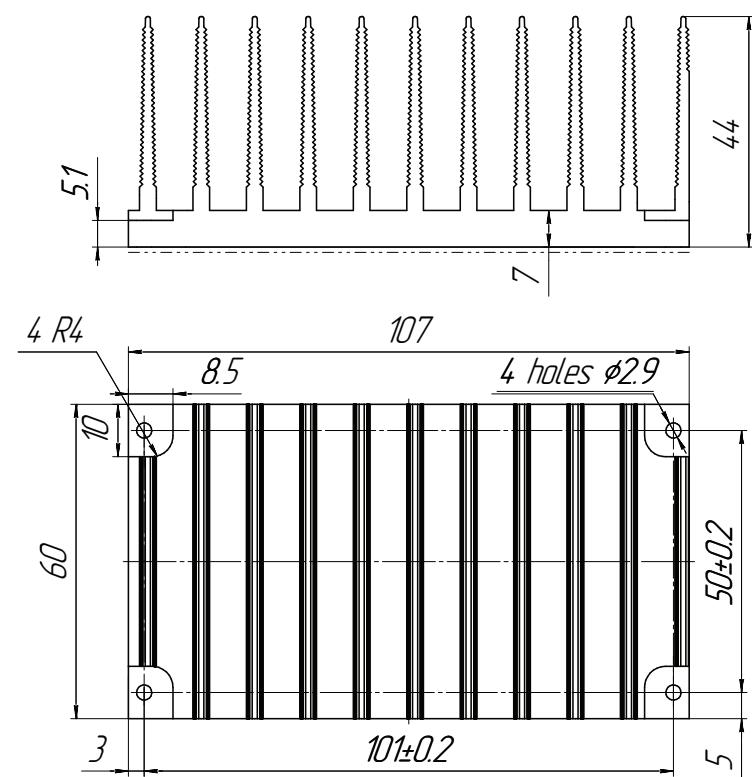
| PIN # | X1.1 | X1.2 | X1.3 | X2.1 | X2.2 |
|----------------|------|------|------|--------|--------|
| SINGLE-CHANNEL | L | N | ⏚ | +OUT 1 | -OUT 1 |

Heatsink drawing

Lengthwise ribbed heatsink



Transverse ribbing heatsink



* Must be ordered separately if required



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KW Systems, LLC is the leading Russian developer and manufacturer of AC/DC converters and power supply systems for mission critical applications.

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