

APRICUM



KPS640

KNX Power Supply 640 mA

Technical & Application Description

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1 Product Description

The KPS640 is a high-quality KNX Power Supply to provide the bus voltage for one KNX bus line. It has no ETS parameters or communication objects. All internal parts are designed according to the latest technical aspects.

The KPS640 generates a voltage of 30 V DC and features an additional auxiliary power output (e.g. to support individual components like touch panels or gateways). This means the device has a choked and a non-choked output. The integrated choke decouples the KNX bus line from the 30 V DC auxiliary output. Both outputs are overload and short circuit protected. Any desired load distribution on the outputs is possible.

With a footprint of 4 units the KPS640 REG needs 72 mm on the 35 mm DIN rail. Internal components are cooled passively. The LED display indicates the state of the power supply unit and the bus line. The KNX bus reset can be activated directly on top of the device by a single button press.

1.1 Front Panel

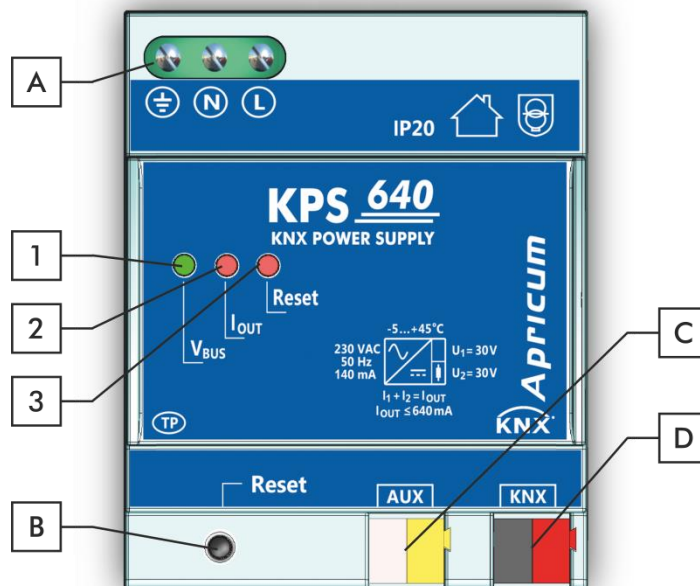


Figure 1: Front View

Table 1: Front Panel Elements

| LEDs | | Buttons / Connectors | |
|------|--------------------------|----------------------|----------------------------|
| 1 | Bus Voltage V_{BUS} | A | Supply Voltage Terminals |
| 2 | Output Current I_{OUT} | B | Reset Button |
| 3 | KNX Bus Reset | C | Auxiliary Output Connector |
| | | D | KNX TP Connector |

1.2 LED Indication

Table 2: LEDs Colours

| Number | LED | Colour | Explanation / Range |
|--------|--------------------------|---------|---|
| 1 | Bus Voltage V_{BUS} | green | KNX bus voltage is 28...31 V AC |
| | | < off > | KNX bus voltage is out of this range |
| 2 | Output Current I_{OUT} | < off > | Output current < 900 mA |
| | | red | Output current > 900 mA (Overload) |
| 3 | KNX Bus Reset | red | KNX bus line is powered down and restart is running |

1.3 Commissioning

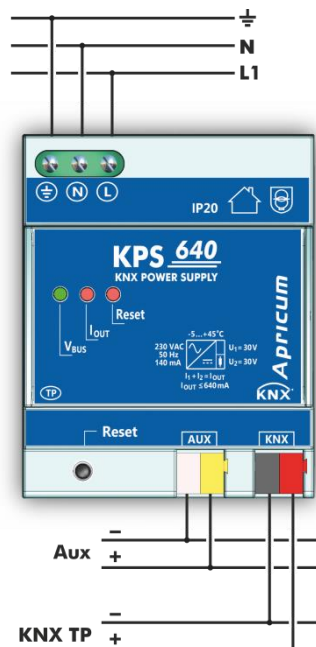


Figure 2: Connection Scheme

Please read carefully before first use:

- The device may only be installed and put into operation by a qualified electrician or authorized personnel
- For planning and construction of electric installations the appropriate specifications, guidelines and regulations in force of the respective country have to be complied
- For mounting use an appropriate equipment according to IEC60715
- Installation only in distribution boards and enclosed housings
- Installation only on a 35 mm DIN rail (TH35)
- Terminals and metal parts under current must be completely covered against touching
- Contact protection must be provided through the control cabinet
- It must be not possible to remove the cover without aid of a tool
- Connect the KNX bus line as for common KNX bus connections with a KNX TP bus cable, to be stripped and plugged into a KNX TP connector
- Do not damage electrical insulations when connecting
- Installation only in dry locations
- Accessibility of the device for operation and visual inspection must be provided
- The housing must not be opened
- Protect the device from moisture, dirt and damage
- The device needs no maintenance
- If necessary, the device can be cleaned with a dry cloth
- In the case of damage no repairs may be carried out by unauthorized personnel

2 Operational Description

In KNX network installations KPS640 supplies one KNX TP line. The KPS640's ETS (dummy) database entry is available for ETS4 and upward. The database without parameters and without communication objects can be added to an ETS project as usual.



All screen shots are related to the KPS640 database file R1-0 in ETS5.

2.1 Application

KPS640 has no parameters and no communication objects. A physical address cannot be downloaded to the device.

2.2 KNX Bus Reset Function

A “KNX Bus Reset” is carried out by pressing the Reset Button. During a reset, the device disconnects the bus line from the supplying output and induces a short circuit. LED 3 (KNX Bus Reset) lights up red and goes off after the reset process is accomplished. LED 1 keeps on lighting green. Devices connected to the bus line restart during the reset process.



It is recommended to press the Reset Button for at least 20 seconds.

Resets:

- Reset by push-button:
The Reset Button activates the KNX Bus Reset. Press the Reset Button on the device to reset the KNX bus line.
- Reset by disconnection:
Removing the KNX bus terminals disconnects the entire bus line.

3 State of Delivery

3.1 Default Factory Setting

Table 3: Default Factory Setting

| General | |
|----------------|-------------------------|
| Product | KNX Power Supply 640 mA |
| Order Number | KPS 640 |
| Application | - |
| ETS Name | KNX Power Supply KPS640 |

3.2 Technical Datasheet

| | |
|---|--|
| Marking/Design | KPS640 |
| Mains voltage | 230 V AC $\pm 15\%$ @ 50 Hz |
| Leakage loss (open-circuited) | 1.2 W |
| Leakage loss (normal operation) | 3.4 W |
| Power consumption (normal operation) | 23 W |
| Power consumption (max., overload) | 42 W |
| Mains failure bridging time | > 100 ms |
| KNX output voltage | 28...31 V DC (SELV) |
| Auxiliary output voltage | 28...31 V DC (SELV) |
| Rated current | 640 mA |
| Maximum current (total output) | 1.2 A |
| Efficiency at nominal load | 81 % |
| Connections | <p>Supply input: Screw terminals, for 0.3...2.5 mm² (torque 0.4 Nm)</p> <p>KNX TP line: KNX TP connector (red/black), screwless, for single-core cable \varnothing 0.6...0.8 mm</p> <p>Aux Output: KNX TP connector (white/yellow), screwless, for single-core cable \varnothing 0.6...0.8 mm</p> |
| LED Display elements | <p>V_{BUS} (Bus voltage)</p> <p>I_{OUT} (Output current)</p> <p>Reset</p> |
| Control elements | Reset Button |
| Mounting | 35 mm top-hat rail (TH35) according to IEC60715 |
| Protection type | IP20 according to IEC60529 |
| Pollution degree | 2 according to IEC60664-1 |
| Overvoltage category | III according to IEC60664-1 |
| Approbation | KNX-certified according to ISO/IEC14543-3 |
| CE Marking | In compliance with directives 2014/35/EU (LVD), 2014/30/EU (EMC), 2011/65/EU (RoHS) |
| Standards | EN50491-5-1, EN50491-5-2, EN50491-5-3, EN50581, EN61000-6-2, EN61000-6-3, EN61558-1, EN61558-2-6 |
| Housing colour | Plastic PA66 housing, grey |

| | |
|------------------------------|---|
| Housing dimensions | H = 90 mm, W = 72 mm (4 modules), D = 71 mm |
| Mounting depth | 64 mm |
| Weight | 206 g |
| Operating temperature | -5...45 °C |
| Storage temperature | -20...70 °C |
| Ambient humidity | 5...93 %, non-condensing |

3.3 Technical Drawings



All dimensions shown here are specified in mm.



The total device width is 4 modules at 18 mm.

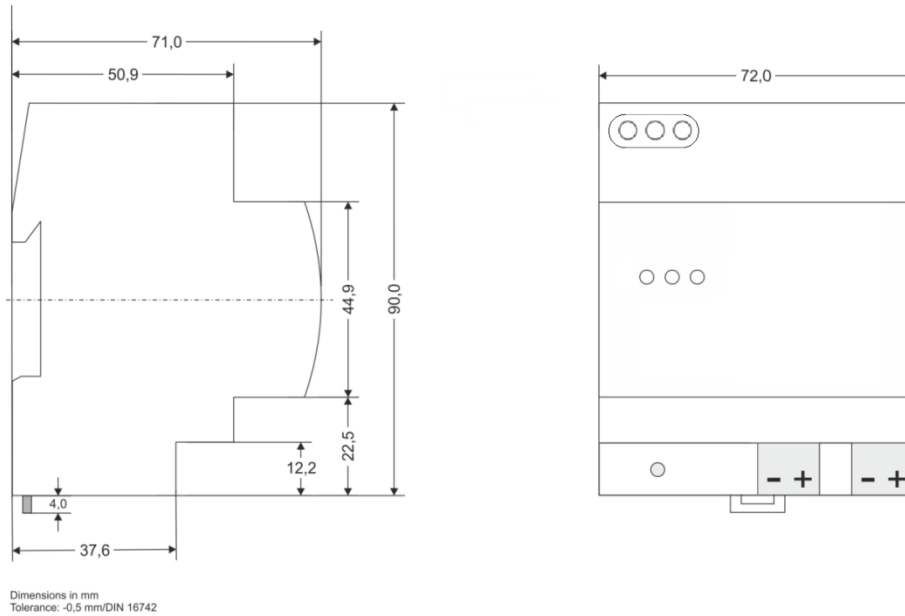


Figure 3: Dimension drawings

KPS640

Product:

KNX Power Supply 640 mA

Doctype:

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Release Number / Release Date:

R1.1 / October 2018

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