

## ■ Features

- EIB / KNX power supply with integrated choke
- Compact size with 4SU width
- Safety extra low voltage (SELV)
- Suitable for TP1-256
- 180~264VAC input
- Protections: Short circuit / Overload (short-circuit-proof) / Over voltage
- Cooling by free air convection
- Isolation class I
- LED indicator for normal operation, bus reset and bus overload
- Installed on DIN rail TS-35/7.5 or 15
- Over Voltage category III
- 100% full load burn-in test
- 3 years warranty

## ■ Applications

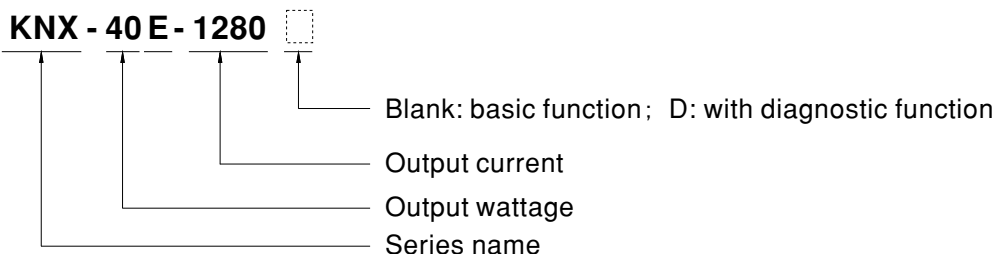
- Intelligent home control
- Modern building automation
- Lighting control
- HVAC system
- Security system
- Blinds and shutters
- Monitoring systems
- Energy management
- Alarm monitoring

## ■ Description

The KNX Power Supply KNX-40E-1280 is a 1280mA power supply with high efficiency and a small footprint of only 4SU. The device has a KNX bus choke output and an additional output for ancillary power. The  $-30\sim+70^{\circ}\text{C}$  wide temperature operating range can meet all kinds of applications. LED indicators are used in case of normal operation, overload conditions and RESET operation. It is perfectly suitable to power up any products labeled with the KNX trademark. With over 30 years of industrial power supply experience, KNX-40E-1280 is engineered to be a reliable and safe solution for KNX bus environment.

## ■ Model Encoding

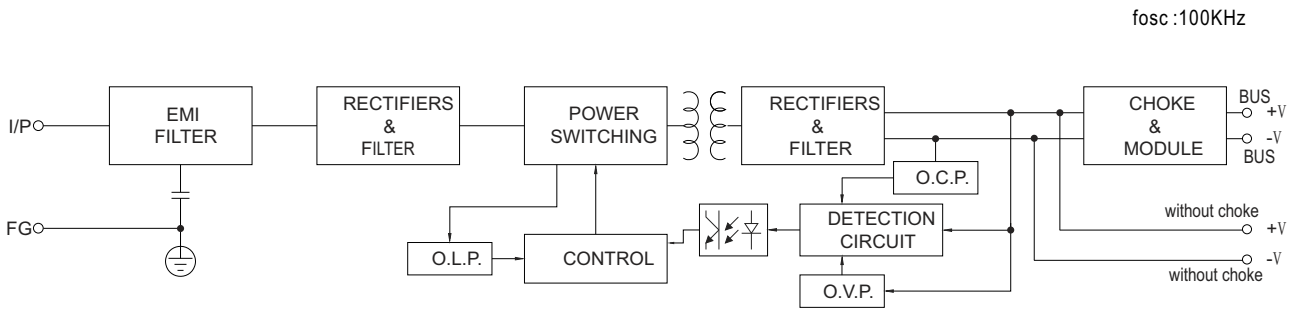
**KNX - 40 E - 1280**  



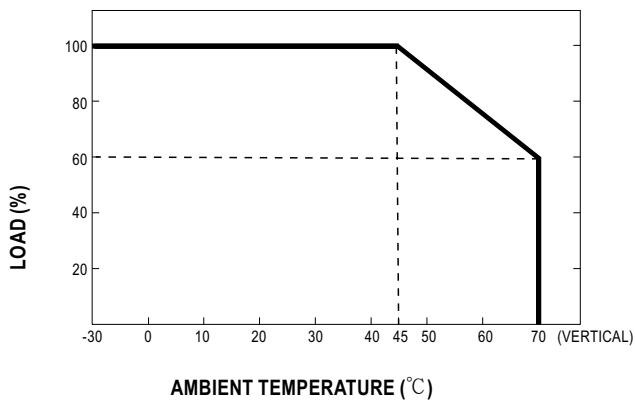
**SPECIFICATION**

|                                  |   |   |
|----------------------------------|---|---|
| <b>MODEL</b>                     |   | <b>KNX-40E-1280</b> <input type="checkbox"/>  |
| <b>OUTPUT</b>                    | <b>BUS OUTPUT VOLTAGE WITH CHOKE</b>  | Bus,30V (KNX black/red terminal block)  |
|                                  | <b>DC OUTPUT VOLTAGE WITHOUT CHOKE</b>  | 30V(Additional output for ancillary power)  |
|                                  | <b>RATED CURRENT</b>  | 1280mA  |
|                                  | <b>RATED POWER</b>  | 38.4W   |
|                                  | <b>RIPPLE &amp; NOISE (max.) Note.2</b>   | 100mVp-p  |
|                                  | <b>SHORT CIRCUIT CURRENT</b>  | 2.8A  |
|                                  | <b>SETUP, RISE TIME</b>   | 1000ms, 50ms/230VAC at full load  |
|                                  | <b>AC MAINS FAILURE BACK-UP TIME (Typ.)</b>   | 200ms/230VAC at full load   |
| <b>INPUT</b>                     | <b>VOLTAGE RANGE</b>  | 180 ~ 264VAC      176 ~ 280VDC  |
|                                  | <b>FREQUENCY RANGE</b>  | 47 ~ 63Hz   |
|                                  | <b>EFFICIENCY (Typ.) Note.3</b>   | 86%   |
|                                  | <b>AC CURRENT (Typ.)</b>  | 0.5A/230VAC   |
|                                  | <b>INRUSH CURRENT (Typ.)</b>  | COLD START 60A(twidth=1200µs measured at 50% Ipeak)/230VAC  |
|                                  | <b>LEAKAGE CURRENT</b>  | <1mA / 240VAC   |
| <b>PROTECTION</b>                | <b>OVERLOAD</b>   | 205 ~ 235% rated output power<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |
|                                  | <b>OVER VOLTAGE</b>   | 33 ~ 35V<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                    |
| <b>FUNCTION</b>                  | <b>RESET</b>  | Physical button for reset the bus (Press the RESET button for at least 20 seconds to reset the KNX Bus)                               |
|                                  | <b>LED INDICATORS</b>   | Please refer to the "Explanation of LED Status"   |
|                                  | <b>CHOKE</b>  | One integrated choke  |
| <b>ENVIRONMENT</b>               | <b>WORKING TEMP.</b>  | -30 ~ +70°C (Refer to "Derating Curve")   |
|                                  | <b>WORKING HUMIDITY</b>   | 20 ~ 95% RH non-condensing  |
|                                  | <b>STORAGE TEMP., HUMIDITY</b>  | -40 ~ +85°C, 10 ~ 95% RH non-condensing   |
|                                  | <b>VIBRATION TYPE OF PROTECTION</b>   | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes  |
|                                  | <b>TYPE OF PROTECTION</b>   | IP20 design   |
| <b>SAFETY &amp; EMC (Note 4)</b> | <b>OVER VOLTAGE CATEGORY</b>  | III ,According to EN61558, EN50178,altitude up to 2000 meters   |
|                                  | <b>SAFETY STANDARDS</b>   | EN61558-1,EN61558-2-16 ; EN50491-3 approved   |
|                                  | <b>WITHSTAND VOLTAGE</b>  | I/P-O/P:4.2KVAC    I/P-FG:2KVAC   |
|                                  | <b>ISOLATION RESISTANCE</b>   | I/P-O/P, I/P-FG:100M Ohms / 500VDC / 25°C / 70% RH  |
|                                  | <b>EMC EMISSION</b>   | Compliance to EN50491-5-2,-5-3;EN61000-3-2,-3-3   |
| <b>OTHERS</b>                    | <b>EMC IMMUNITY</b>   | Compliance to EN50491-5-2,-5-3 ; EN61000-4-2,3,4,5,6,8,11 , heavy industry level, criteria A  |
|                                  | <b>MTBF</b>   | 487.4K hrs min. Telcordia SR-332 (Bellcore)      215.6Khrs min.    MIL-HDBK-217F (25°C)   |
|                                  | <b>DIMENSION</b>  | 72*90*57mm (W*H*D)  |
|                                  | <b>MOUNTING</b>   | 35mm mounting rail according to DIN EN60715   |
| <b>NOTE</b>                      | <b>PACKING</b>  | 0.328Kg ; 48pcs/16.4Kg/1.02CUFT   |
|                                  | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor. Measure before Choke.</p> <p>3. Efficiency before choke.</p> <p>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> |   |

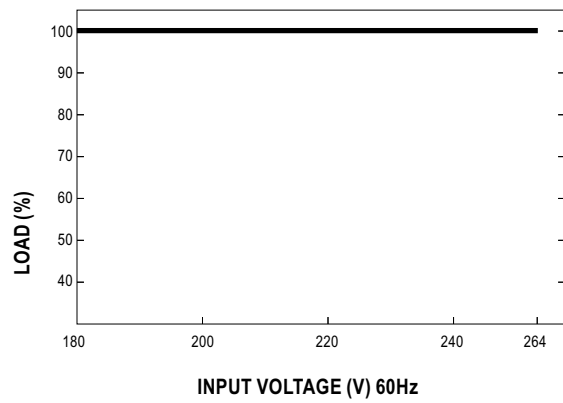
■ **Block Diagram**



■ **Derating Curve**

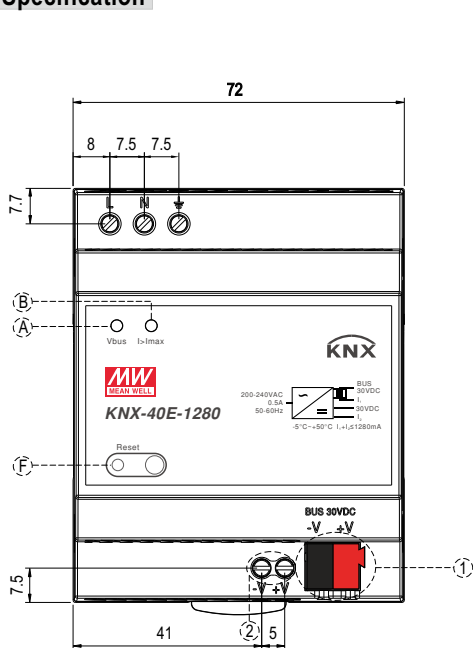


■ **Static Characteristics**

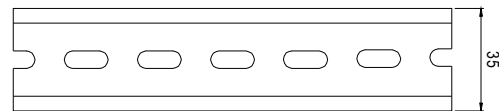
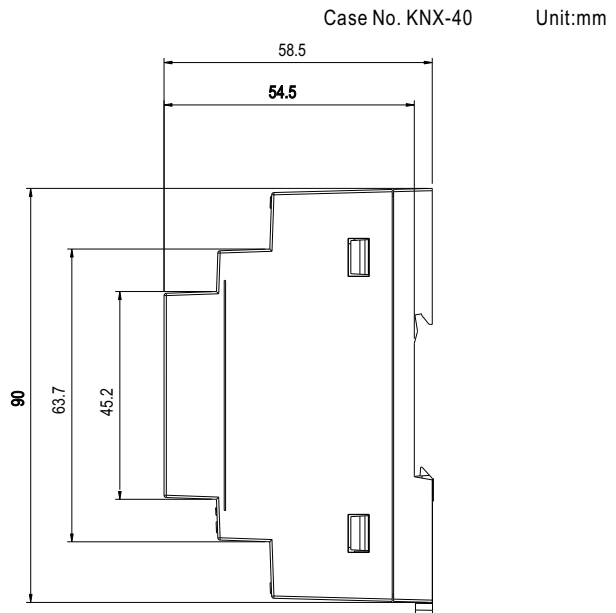


## Mechanical Specification

### ※ Blank-Type

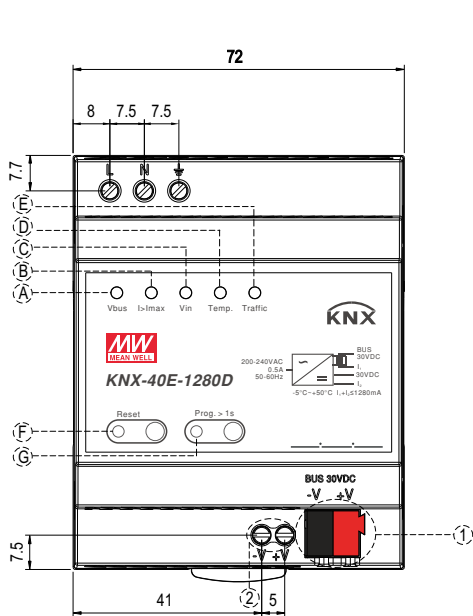


|   |   |
|---|---|
| 1 | KNX bus terminals (Red :+, DARK-GRAY:-) |
| 2 | Ancillary power terminals               |

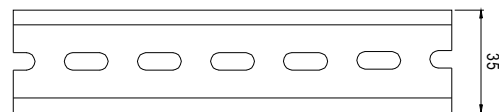
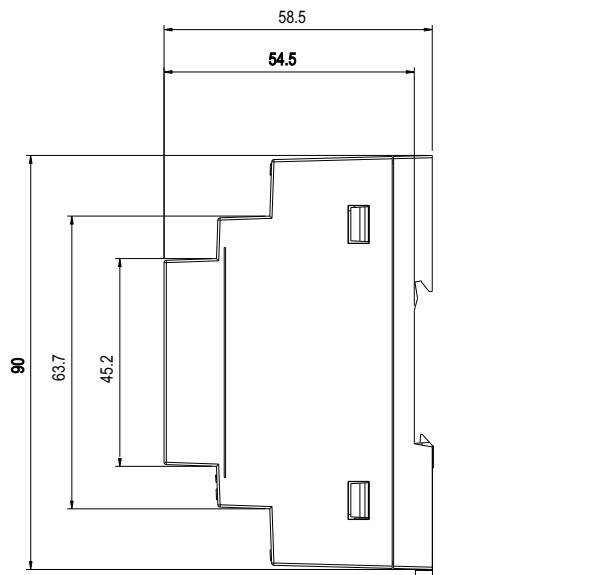


ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

### ※ D-Type



|   |   |
|---|---|
| 1 | KNX bus terminals (Red :+, DARK-GRAY:-) |
| 2 | Ancillary power terminals               |



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

■ **Explanation of LED Status**

| Number | LED light                | Color  | Explanation / Range                         |
|--------|--------------------------|--------|---|
| A      | Bus voltage $V_{BUS}$    | Green  | KNX Bus voltage is 28~31VDC                 |
|        |                          | Red    | KNX Bus voltage lower than 28VDC            |
|        |                          | Orange | KNX Bus voltage higher than 31VDC           |
| B      | Output current $I_{OUT}$ | Green  | Output current < 1280mA                     |
|        |                          | Orange | Output current is 1280mA~1600mA             |
|        |                          | Red    | Output current >1600 mA (Overload)          |
| C      | Input voltage $V_{IN}$   | Green  | Input voltage is 180V-264VAC                |
|        |                          | Red    | Input voltage is out of this range          |
| D      | Internal Temperature     | Green  | Internal Temperature is 0~75 °C             |
|        |                          | Red    | Internal Temperature is out of this range   |
| E      | Telegram traffic         | Green  | Telegram load < 80 %, indicated by blinking |
|        |                          | Red    | Telegram load > 80 %                        |
| F      | KNX Reset                | Red    | Device is during a KNX bus restart          |
| G      | Programming              | Red    | Device in Program mode                      |

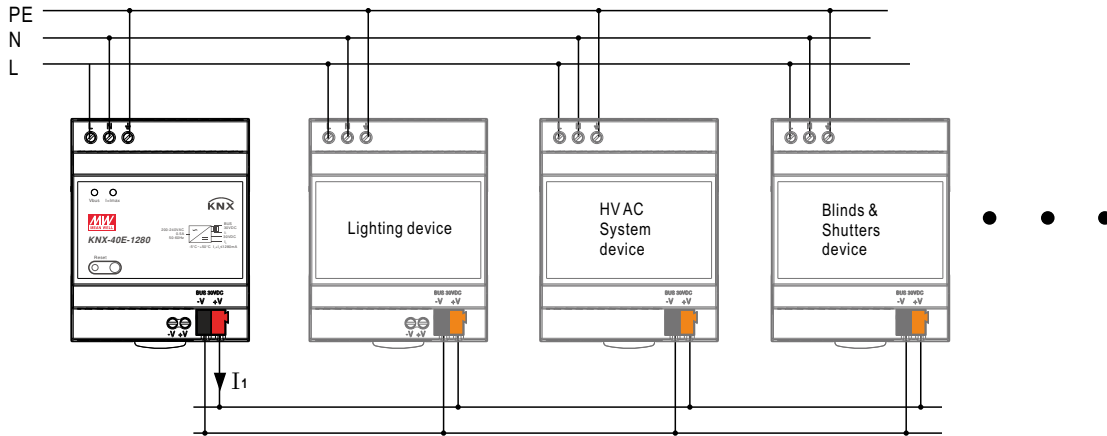
■ **Configuration and Commissioning**

The application program(database) can be downloaded via Online Catalogs from ETS or via <http://www.meanwell.com/productCatalog.aspx>

■ Typical application

◎ Application 1: Powering KNX Bus Only

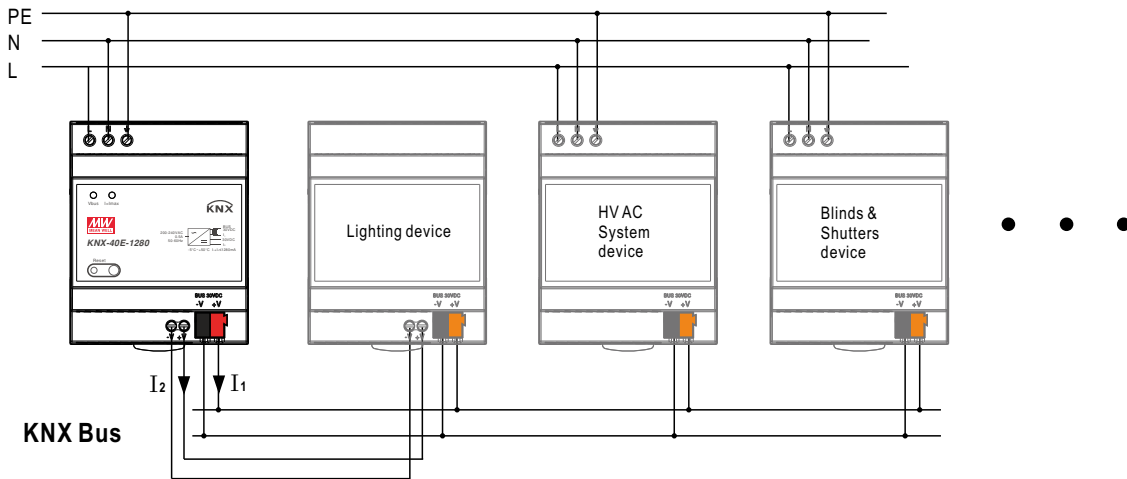
KNX Bus



Bus wiring consideration:

1. the maximum number of bus devices connected is 256 for TP1-256 topology.
2. the maximum length of a line segment is 350 m, measured along the line between the power supply and the furthest device bus.
3. the maximum distance between two bus devices cannot exceed 700 m.
4. the maximum length of a bus line is 1000 m, keeping into account all segments.
5. It is possible to connect two KNX-40E-1280 in parallel with following conditions: Two chokes installed in one line with at least 200m apart.

◎ Application 2: Powering KNX Bus and KNX device



Note:

1. Use only ancillary output of KNX-40E-1280 to power the KNX device
2. The total current  $I_1 + I_2$  should be equal or less than 1280mA.  $I_1 + I_2 \leq 1280\text{mA}$
3. The above Bus wiring consideration is still applicable

■ Recommended Screwdriver, Wire and Torque Setting

1. Screwdriver (Width\*Thick): Slotted screwdriver 2.5\*0.4~3.5\*0.6
2. Wire: 0.5~4.0mm<sup>2</sup> solid core or 0.5~2.5mm<sup>2</sup> finely stranded
3. Torque: 0.8Nm

■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>