

# KNX-40E-1280 Series

1280mA KNX Power Supply



Case:  
72 x 90 x 57mm

## Features

- EIB/KNX power supply with integrated choke
- Compact size with 45U 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
- Isolated 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

TYPE	FUNCTION
Blank	1280mA KNX Power Supply
D	1280mA KNX Power Supply with Diagnostic function

KNX - 40E - 1280  ← Blank: Basic Function  
Series name Output wattage Output Current D: with diagnostic function



## Specification

INPUT	<b>Voltage Range</b>	180 ~ 264VAC 176 ~ 280VDC
	<b>Frequency Range</b>	47 ~ 63 Hz
	<b>AC current</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
OUTPUT	<b>MODEL No.</b>	KNX-40E-1280 <input type="checkbox"/>
	<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>R&amp;N</b>	100mVp-p
	<b>Short Circuit Current</b>	2.8A
	<b>Efficiency</b>	86%
	<b>Set up, Rise Time</b>	1000ms, 50ms/230VAC at full load
	<b>AC Mains failure back-up time</b>	200ms/230VAC at full load
PROTECTION	<b>Overload</b>	205 ~ 235% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed
	<b>Over Voltage</b>	33 ~ 35V Protection type : Shut down o/p voltage, re-power on to recover
FUNCTION	<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 Display</b>	Please refer to the Explanation of LED Status"
	<b>Choke</b>	One integrated choke
ENVIRONMENT	<b>Working Temperature</b>	-30 ~ +70°C (Please refer to "Derating Curve" section)
	<b>Working Humidity</b>	20 ~ 95% RH non-condensing
	<b>Storage Temp., Humidity</b>	-40 ~ +85°C, 10 ~ 95% RH
	<b>Vibration</b>	10 ~ 500Hz, 2G 10 min./1cycle, period for 60 min. each along X, Y, Z axes
	<b>Type of Protection</b>	IP20 Design
SAFETY & EMC	<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
OTHERS	<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>M.T.B.F.</b>	487.4K hrs min. Telcordia SR-332 (Bellcore) 215.6Khrs min. MIL-HDBK-217F (25°C)
	<b>Mounting</b>	35mm mounting rail according to DIN EN60715
	<b>Packing</b>	0.328Kg; 48pcs/16.4Kg/1.02CUFT

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple and Noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1µf & 47µf parallel capacitor. Measure before choke.
3. Efficiency before choke.
4. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
5. The ambient temperature of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude of higher than 2000m (6500ft).

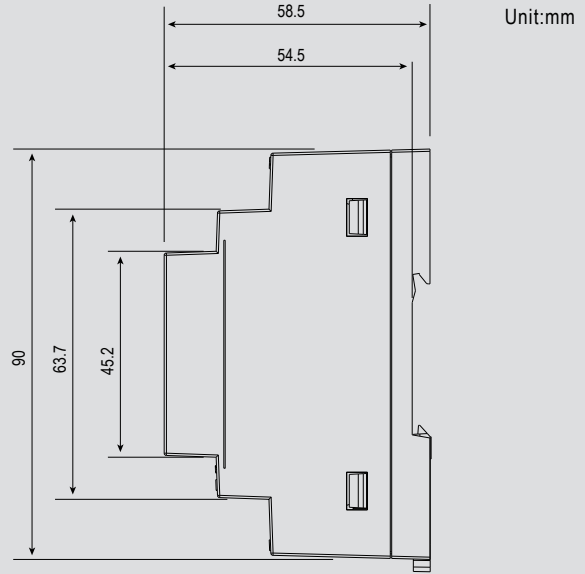
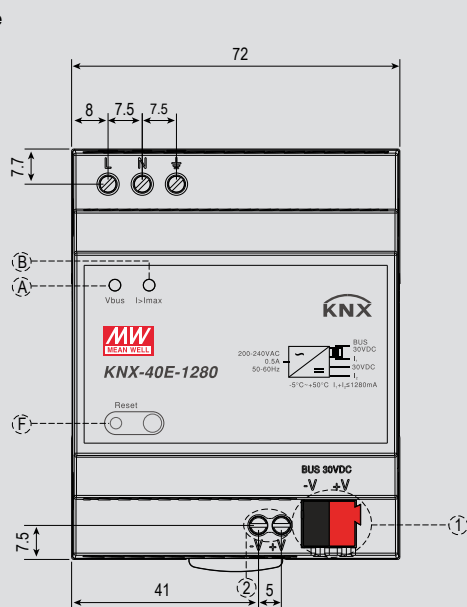
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1280mA KNX Power Supply



## Mechanical Diagram

### Blank-Type



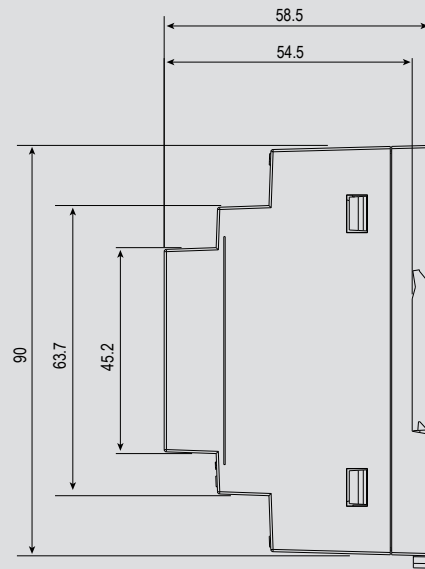
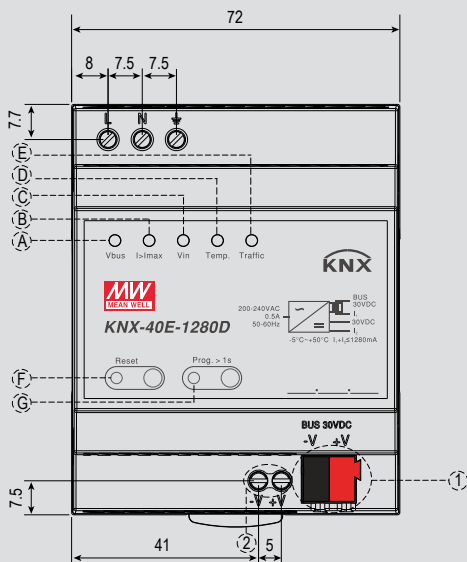
Unit:mm

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

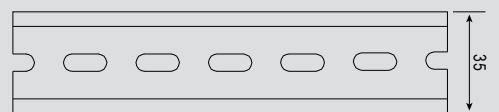


ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

### D-Type



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



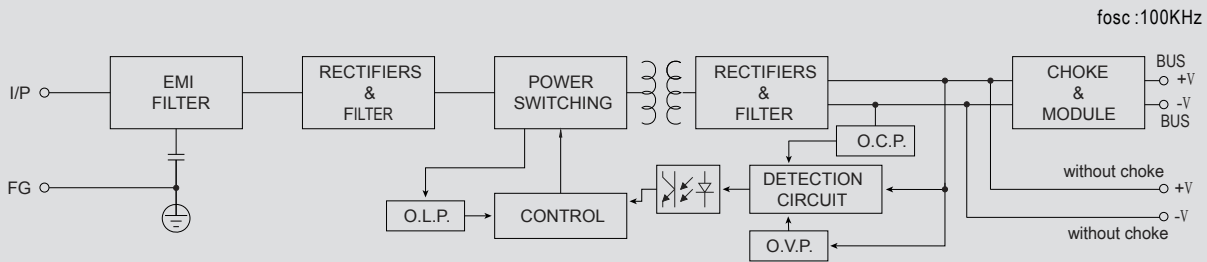
ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

# KNX-40E-1280 Series

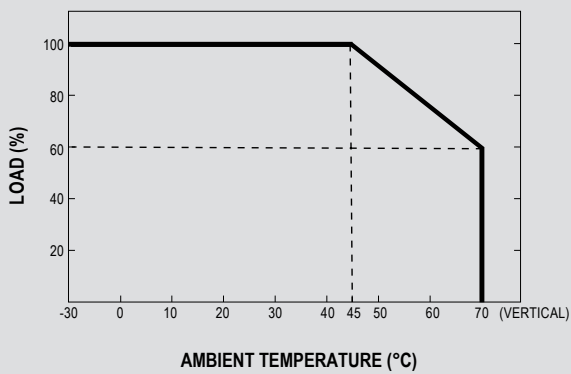
1280mA KNX Power Supply



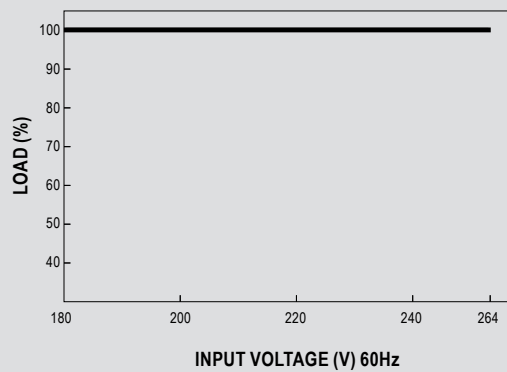
## Block Diagram



## Derating Curve



## Static Characteristics



## 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

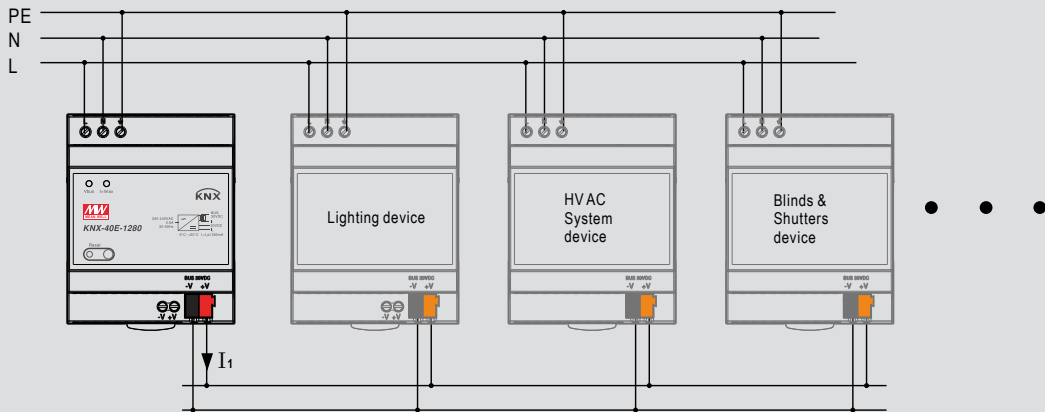
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## Application 1: Powering KNX Bus Only

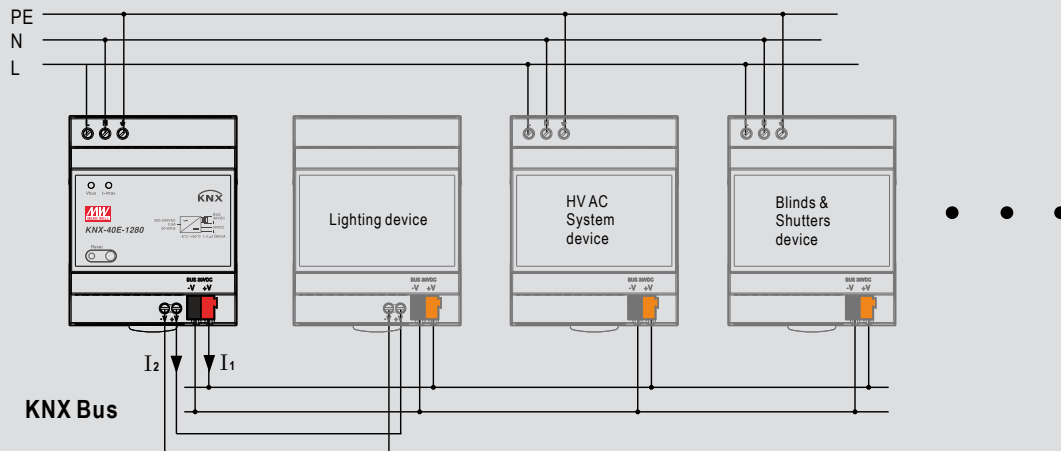
### KNX Bus



#### 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