MEAN WELL

1280mA KNX Power Supply

KNX-40E series





Features

- **EIB / KNX power supply with integrated choke**
- Compact size with 4SU width(72mm)
- 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
- Monitoring of output voltage,output current,bus traffic load and device temperature
- Provide Wide variety of diagnostic and logic function
- Over Voltage category III
- 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

MEAN WELL,the leading standard power supply manufacturer,continues to promote the buiding automation technology for making a green and sustainable society.After the launch of KNX-20E-640,the new KNX power supply KNX-40E-1280(D) is proudly introduced.

The KNX Power Supply KNX-40E-1280(D) is a 1280mA power supply with high efficiency and a small footprint of only 4SU(72mm).The device has a KNX bus choke output and additional output for auxiliary power.The -30~+70°C wide temperature operating range can meet all kinds of applications.For troubleshooting,monitoring purpose,output voltage,output current,bus traffic,device temperature and other actual measurement values can be sent via KNX.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.

Model Encoding

KNX - 40 E - 1280 ☐

- Blank: basic function； D: with diagnostic function
- Output current
- Output wattage
- Series name

Type	Function	Note
Blank	1280mA KNX Power Supply	In Stock
D	1280mA KNX Power Supply with Diagnostic function	In Stock

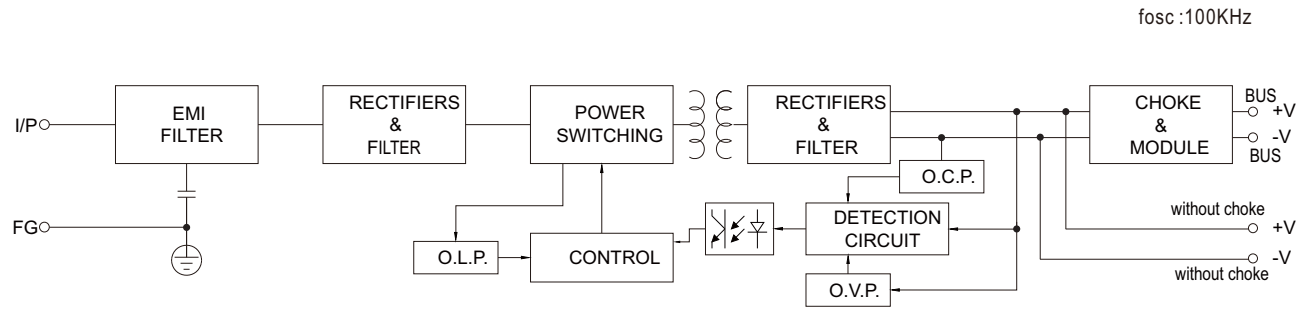
1280mA KNX Power Supply

KNX-40E series

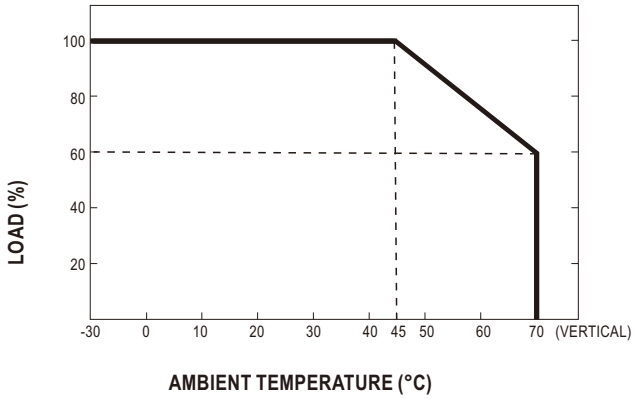
SPECIFICATION

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

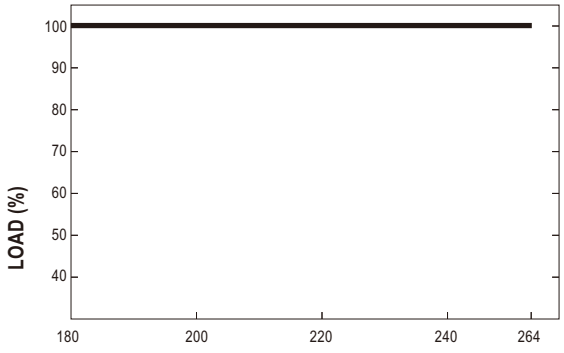
■ Block Diagram



■ Derating Curve



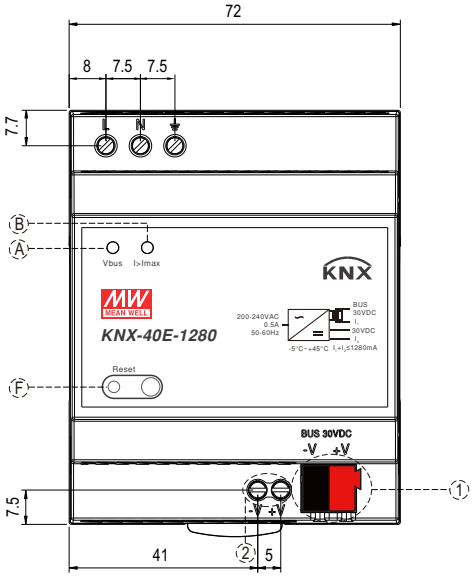
■ Static Characteristics

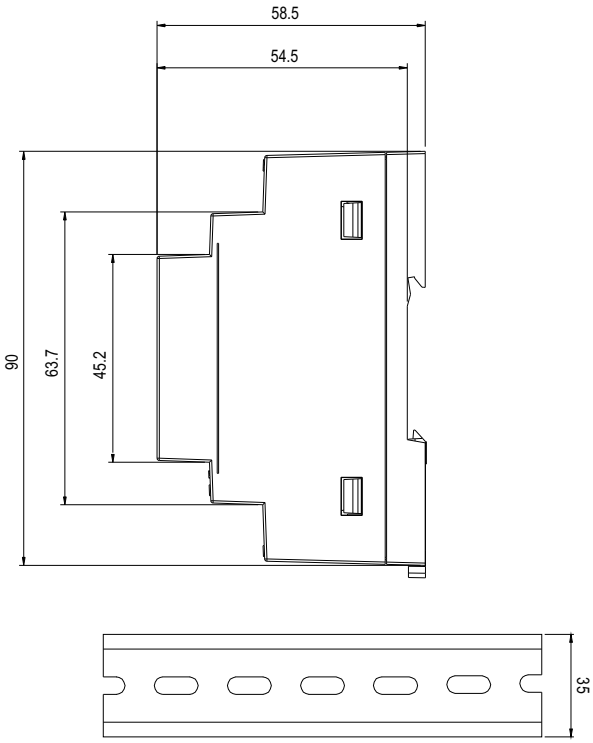


■ Mechanical Specification

Case No. KNX-40 Unit:mm

※ Blank-Type

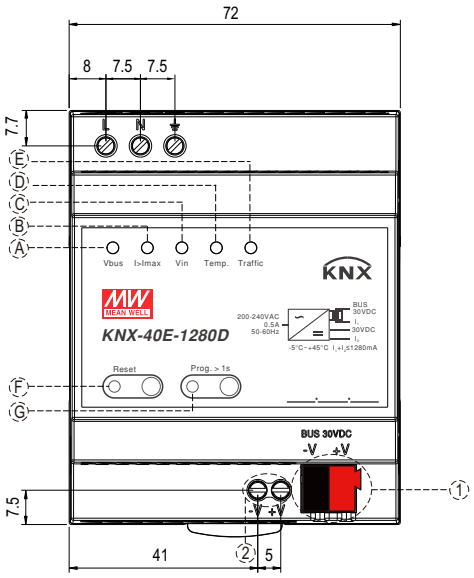


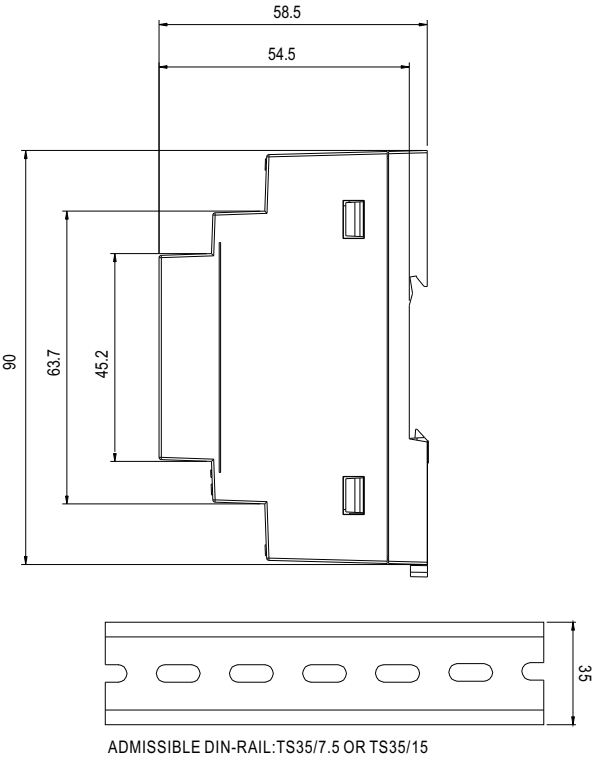


ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

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

※ D-Type





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

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

■ Explanation of LED Status

Number	LED light	Color,Indicate type	Explanation / Range
A	Bus voltage V_{BUS}	Green,constant	KNX Bus voltage is 28~31VDC
		Red,constant	KNX Bus voltage lower than 28VDC
		Orange,constant	KNX Bus voltage higher than 31VDC
B	Output current I_{OUT}	Green,constant	Output current < 1280mA
		Orange,constant	Output current is 1280mA~1600mA
		Red,constant	Output current >1600 mA (Overload)
C	Power Input V_{IN}	Green,constant	Powered by AC input
		Green,flash	Powered by DC input
		Red,constant	AC/DC input fail
D	Internal Temperature	Green,constant	Internal Temperature is 0~75 °C
		Red,constant	Internal Temperature is out of this range
E	Telegram traffic	Green,flash	Telegram load < 80 %
		Red,constant	Telegram load >= 80 %
F	KNX Reset	Red,constant	Device is during a KNX bus restart
G	Programming	Red,constant	Device in Program mode

Note:Application data base needs to be downlaoded into KNX-40E-1280D for the LED indicator to work properly.

■ Configuration and Commissioning

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

■ Communication Object Table (Only for KNX-40E-1280D)

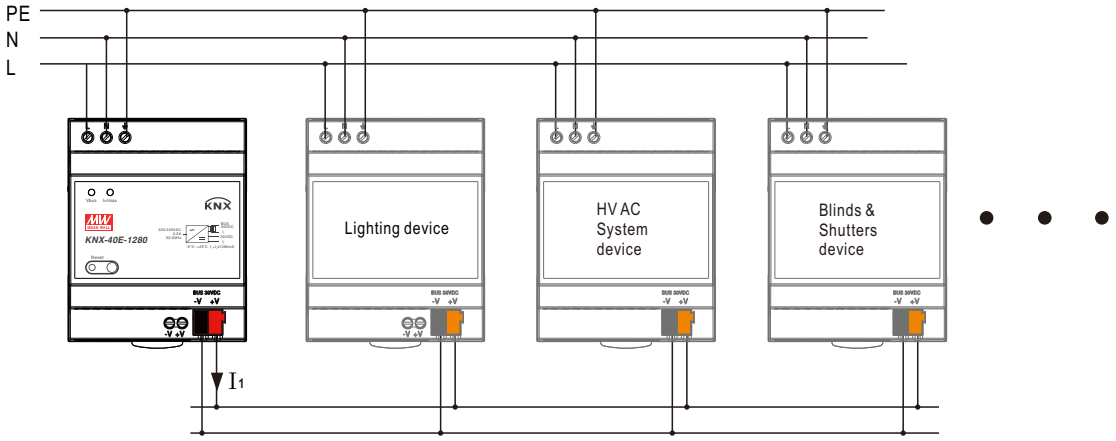
Num	Object name	Object function	Length	DPT	Priority	Flag
1	Heartbeat	Send info	1bit	1.017,trigger	Low	CRT
2	Power supply on	Send info	1bit	1.017, trigger	Low	CRT
3	Send measurements	Request all measurements value	1bit	1.001,switch	Low	CW
4	Clear all data	Reset all calculation data	1bit	1.001,switch	Low	CW
5	Send calculations	Request all calculations value	1bit	1.001,switch	Low	CW
6	Bus reset	Request bus reset	1bit	1.001,switch	Low	CWU
7	Total working time	Send current total working time value	4byte	13.100,time lag,(s)	Low	CRT
8	Time from last startup	Send operating time from last startup	4byte	13.100,time lag,(s)	Low	CRT
9	The number of bus restart times	Send bus reset times value	2byte	7.001,pulses	Low	CRT
10	The number of device startup times	Send device startup times value	2byte	7.001,pulses	Low	CRT
11	Output voltage measured	Send voltage value measured	2byte	9.20,voltage,(mV)	Low	CRT
			4byte	14.027,electric potential,(V)	Low	CRT
12	Output voltage alarm	Send threshold status	1bit	1.005,alarm	Low	CRT
13	Output current measured	Send current value measured	2byte	7.012,current,(mA)	Low	CRT
			2byte	9.021,current,(mA)	Low	CRT
			4byte	14.019,electric current,(A)	Low	CRT
14	Output current alarm	Send threshold status	1bit	1.005,alarm	Low	CRT
15	Device temperature measured	Send temperature value measured	2byte	9.001,temperature,(°C)	Low	CRT
16	Device temperature alarm	Send threshold status	1bit	1.005,alarm	Low	CRT
17	Maximum output current during tracking period	Send maximum value captured	2byte	7.012,current,(mA)	Low	CRT
			2byte	9.021,current,(mA)	Low	CRT
			4byte	14.019,electric current,(A)	Low	CRT
18	Maximum device temperature during tracking period	Send maximum value captured	2byte	9.001,temperature,(°C)	Low	CRT
19	Busload measured	Send busload value calculated	1byte	5.004,percentage,(0~255%)	Low	CRT
20	Busload alarm	Send threshold status	1bit	1.005,alarm	Low	CRT
21	The number of overload times	Send times count value	2byte	7.001,pulses	Low	CRT
22	Overload duration	Send duration time value	4byte	13.100,time lag,(s)	Low	CRT
23	The number of short circuits times	Send times count value	2byte	7.001,pulses	Low	CRT
24	Time load detached	Send duration time value	4byte	13.100,time lag,(s)	Low	CRT
25	Alarm 1	Send threshold status	1bit	1.005,alarm	Low	CRT
26	Count 1	Send times count value	2byte	7.001,pulses	Low	CRT
27	Duration 1	Send duration time value	4byte	13.100,time lag,(s)	Low	CRT
28	Alarm 2	Send threshold status	1bit	1.005,alarm	Low	CRT
29	Count 2	Send times count value	2byte	7.001,pulses	Low	CRT
30	Duration 2	Send duration time value	4byte	13.100,time lag,(s)	Low	CRT
31	Alarm 3	Send threshold status	1bit	1.005,alarm	Low	CRT
32	Count 3	Send times count value	2byte	7.001,pulses	Low	CRT
33	Duration 3	Send duration time value	4byte	13.100,time lag,(s)	Low	CRT
34	Alarm 4	Send threshold status	1bit	1.005,alarm	Low	CRT
35	Count 4	Send times count value	2byte	7.001,pulses	Low	CRT
36	Duration 4	Send duration time value	4byte	13.100,time lag,(s)	Low	CRT

The priority of the particular communication objects as well as the flags can be adjusted. The flag control the function of the objects in the programming where C stands for communication, R for Read, W for write, T for transmit and U for update.

■ Typical application

◎ Application 1:Powering KNX Bus Only

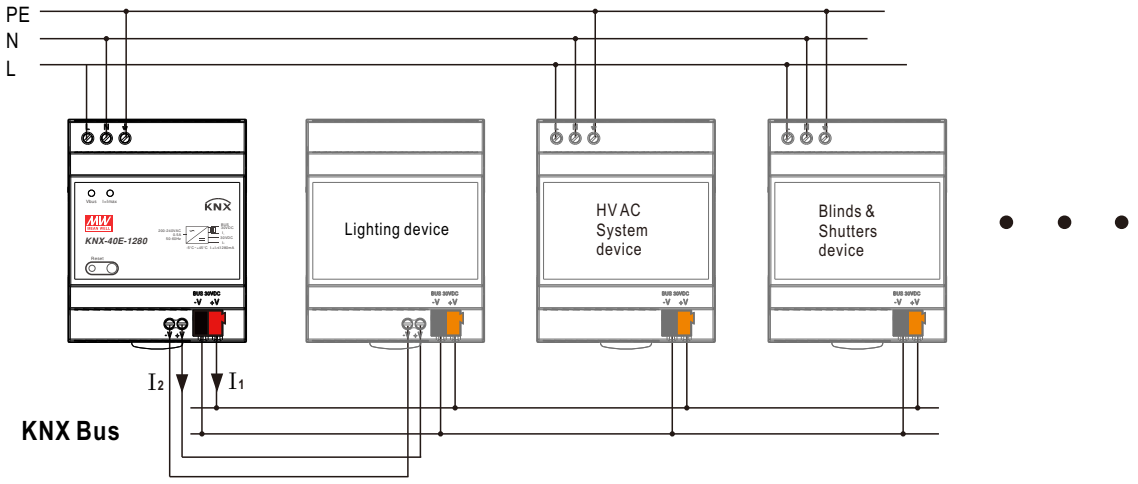
KNX Bus



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.

◎ 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. $I_1+I_2 \leqslant 1280mA$
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:0.5~4.0mm² solid core or 0.5~2.5mm² finely stranded
3.Torque:0.8Nm

■ Installation Manual

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