


KNX-GW-P1

KNX Gateway P1	Product Group 1
<p>Application : KNX bus coupling for counters with P1 interface</p> <p>The P1 gateway is a slave for the P1-bus which is similar to the MBUS. Each used meter needs one gateway and one Gateway can only serve one meter and up to four externally coupled meters.</p> <p>In Belgium the device is only available from Siconia meter and support is only available from Vecolux.</p> <p>Product Data Base: KNX-GW-P1-REG.knxprod</p> <p>KNX Readable Data: Active Power Import/Export Instantaneous Current L1..L3 Instantaneous Voltage L1..L3 Cumulated Active Energy Import/Export And much more Up to four externally linked meter readings</p>	

KNX-GW-P1	Article	Article Description	Article-No.
KNX		Document: 4620_ex_KNX-GW-P1.pdf	
	KNX-GW-P1	P1 gateway for one P1 Meter from - Siconia DIN Rail mounted housing 2 units width (35 mm) IP20 2,5m connection cable to meter included	60400013

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1 Application Description

The P1 Gateway is set up using the ETS (KNX Tool Software) with the associated application program.
The device is delivered unprogrammed.
All functions are parameterized and programmed in the ETS.

Functions

The P1-gateway is fetching metering values from smart meters with P1 interface and sending them onto the KNX-bus.

2 KNX Parameter

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2.1 Global Settings

3.3.1 KNX-GW-P1-REG_PROD > Global Settings

Global Settings	KNX Settings
Active Power [Import]: DP1	Sending Cycle: 1 Minute
Active Power [Export]: DP2	External Meter Settings
Current [L1]: DP3	Meter 1 Type: Gas
Current [L2]: DP4	Meter 2 Type: Thermal
Current [L3]: DP5	Meter 3 Type: Water
Voltage [L1]: DP6	Meter 4 Type: M-Bus
Voltage [L2]: DP7	Active Power Representations
Voltage [L3]: DP8	Separate: 2 distinct Comm Objects for Import/Export Combined: 1 combined Comm Object, (representing Import - Export)
Meter Reading [Import] (Tariff 1...	Active Power (Obj 0) <input checked="" type="radio"/> Separate <input type="radio"/> Combined
Meter Reading [Import] (Tariff...	Active Power L1 (Obj 12) <input checked="" type="radio"/> Separate <input type="radio"/> Combined
Meter Reading [Export] (Tariff 1...	Active Power L2 (Obj 14) <input checked="" type="radio"/> Separate <input type="radio"/> Combined
	Active Power L3 (Obj 16) <input checked="" type="radio"/> Separate <input type="radio"/> Combined

Global Settings - KNX-GW-P1

Parameter	Setting	Description
KNX Sending Cycle	None 1 min .. 12 h	The global parameter "Sending cycle" determines the repetition rate of sending the values which are marked as "Send cyclical" on the DP-pages.
External Meter Setting Meter X Type	Gas Thermal Water M-Bus	Up to 4 external counter can be coupled.
Active Power Representation		see above

2.2 P1 DPx

3.3.1 KNX-GW-P1-REG_PROD > Active Power [Import]: DP1

Global Settings	Description	DP1
Active Power [Import]: DP1	Send on Change	<input type="radio"/> No <input checked="" type="radio"/> Yes
Active Power [Export]: DP2	Send on change of more than	3%
Current [L1]: DP3	Send Cyclically	<input type="radio"/> No <input checked="" type="radio"/> Yes
Current [L2]: DP4	KNX DPT Type	4 Byte Float
Current [L3]: DP5	Adjustment Multiplier	1

P1 DPx - KNX-GW-P1

Parameter	Setting	Description
Description	64 Characters ASCII	Description only for documentation purposes.
Send on Change	No Yes	Send new values to the KNX-bus if the value changed.
Send on Change of more than	0 % 1 % 3 % 5 % 10 %	Send new values only if the change is greater than xx%.
Send Cyclically	No Yes	Send the values to the bus also in a defined cycle time as set on the global settings page.
KNX DPT Type	2 Byte Float 4 Byte Float 4 Byte unsigned integer 4 Byte signed integer	Define the type of data sent to the KNX.
Adjustment Multiplier		(only for 4-Byte values) Adjustment For different measurement bases ex. KW->MW MWh->GWh etc.

3 KNX Objects

Nummer	Name	Objektfunktion	Länge	K	L	S	Ü	A	Datentyp
0	Output, Active Power [Import] -- DP1	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
1	Output, Active Power [Export] -- DP2	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
2	Output, Current [L1] -- DP3	Meter Value	4 bytes	K	L	-	Ü	-	elekt. Strom (A)
3	Output, Current [L2] -- DP4	Meter Value	4 bytes	K	L	-	Ü	-	elekt. Strom (A)
4	Output, Current [L3] -- DP5	Meter Value	4 bytes	K	L	-	Ü	-	elekt. Strom (A)
5	Output, Voltage [L1] -- DP6	Meter Value	4 bytes	K	L	-	Ü	-	elekt. Potential (V)
6	Output, Voltage [L2] -- DP7	Meter Value	4 bytes	K	L	-	Ü	-	elekt. Potential (V)
7	Output, Voltage [L3] -- DP8	Meter Value	4 bytes	K	L	-	Ü	-	elekt. Potential (V)
8	Output, Meter Reading [Import] (Tariff 1) -- DP9	Meter Value	4 bytes	K	L	-	Ü	-	Wirkarbeit (kWh)
9	Output, Meter Reading [Import] (Tariff 2) -- DP10	Meter Value	4 bytes	K	L	-	Ü	-	Wirkarbeit (kWh)
10	Output, Meter Reading [Export] (Tariff 1) -- DP11	Meter Value	4 bytes	K	L	-	Ü	-	Wirkarbeit (kWh)
11	Output, Meter Reading [Export] (Tariff 2) -- DP12	Meter Value	4 bytes	K	L	-	Ü	-	Wirkarbeit (kWh)
12	Output, Active Power L1 [Import] -- DP13	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
13	Output, Active Power L1 [Export] -- DP14	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
14	Output, Active Power L2 [Import] -- DP15	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
15	Output, Active Power L2 [Export] -- DP16	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
16	Output, Active Power L3 [Import] -- DP17	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
17	Output, Active Power L3 [Export] -- DP18	Meter Value	4 bytes	K	L	-	Ü	-	Leistung (W)
18	Output, External Device 1 Value [Gas] -- DP19	Meter Value	4 bytes	K	L	-	Ü	-	Volumen (m ³)
19	Output, External Device 2 Value [Thermal] -- DP20	Meter Value	4 bytes	K	L	-	Ü	-	Wärmemenge (J)
20	Output, External Device 3 Value [Water] -- DP21	Meter Value	4 bytes	K	L	-	Ü	-	Volumen (m ³)
21	Output, External Device 4 Value -- DP22	Meter Value	6 bytes	K	L	-	Ü	-	Ablesewert (Wert,Encoding,Befehl)
25	Output, Tariff Indicator	Tariff Indicator	4 bytes	K	L	-	Ü	-	4-Byte vorzeichenlos
26	Output, Serialnumber [Self]	Serialnumber	14 bytes	K	L	-	Ü	-	Zeichen (ASCII)
27	Output, Last Received Time [Self]	Time	3 bytes	K	L	-	Ü	-	Tageszeit
28	Output, Serialnumber [Ext1]	Serialnumber	14 bytes	K	L	-	Ü	-	Zeichen (ASCII)
29	Output, Last Received Time [Ext1]	Time	3 bytes	K	L	-	Ü	-	Tageszeit
30	Output, Serialnumber [Ext2]	Serialnumber	14 bytes	K	L	-	Ü	-	Zeichen (ASCII)
31	Output, Last Received Time [Ext2]	Time	3 bytes	K	L	-	Ü	-	Tageszeit
32	Output, Serialnumber [Ext3]	Serialnumber	14 bytes	K	L	-	Ü	-	Zeichen (ASCII)
33	Output, Last Received Time [Ext3]	Time	3 bytes	K	L	-	Ü	-	Tageszeit
34	Output, Serialnumber [Ext 4]	Serialnumber	14 bytes	K	L	-	Ü	-	Zeichen (ASCII)
35	Output, Last Received Time [Ext 4]	Time	3 bytes	K	L	-	Ü	-	Tageszeit
36	Output, Date	Date	3 bytes	K	L	-	Ü	-	Datum
38	Output, Error	Error	1 bit	K	L	-	Ü	-	Alarm

Objects 18-21 and 28-35 are required for the 4 possible externally coupled meters.

4 Product Page

The P1-gateway is fetching metering values from smart meters with P1 interface and sending them onto the KNX-bus.

The KNX-GW-P1 is set up using the ETS (KNX Tool Software) and the applicable application program.



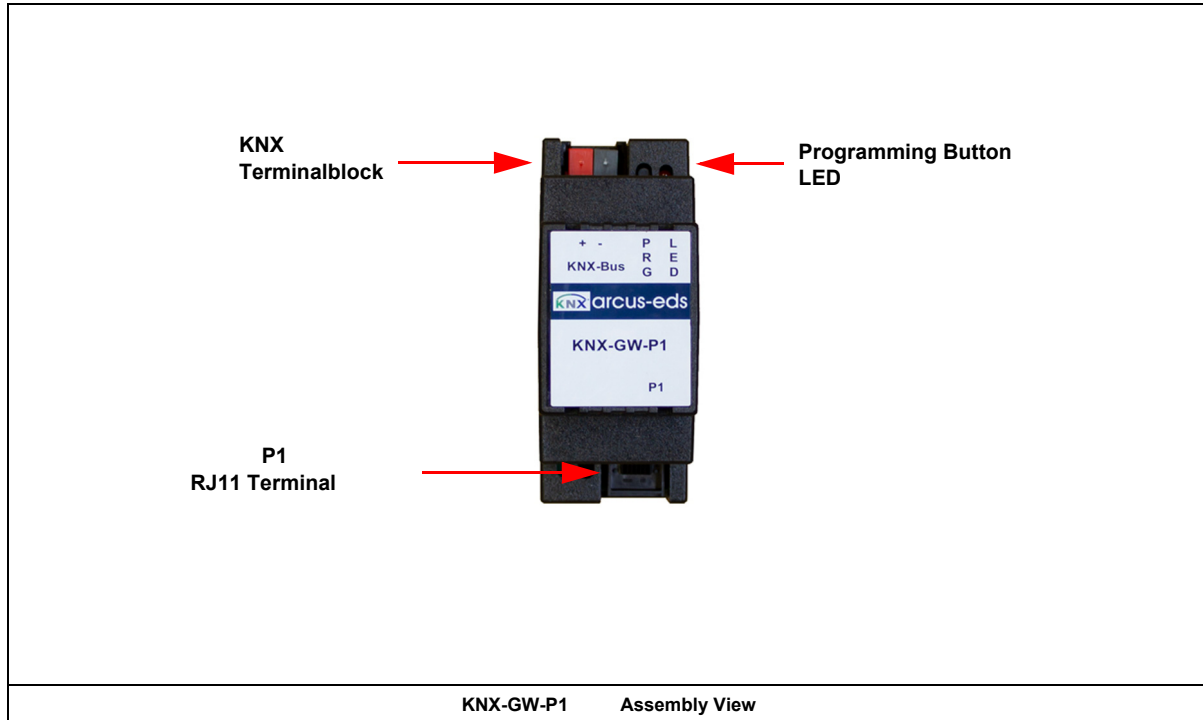
5 Technical Data

Technical Data - KNX-GW-P1

Maximum number of P1 devices	1
Maximum number of P1 data values	20
Maximum external meter	4
P1 Reading cycle time	10s bis 12h
P1 short circuit immunity	unlimited
Supply voltage	KNX Busvoltage 21 .. 32VDC
Power consumption	approx. 240 mW (at 24VDC)
Auxiliary power	not necessary
Bus coupler	integrated
Environment temperature	Storage: -20 .. +85 °C Operation: -20 .. +55 °C
ETS data file	KNX-GW-P1-REG.knxprod
Connections	KNX 2-pin Terminal (red / black) P1 6-pin RJ12 terminal
Connection cable	RJ12 2,5m (included)
Protection class REG	IP20
Mounting style	DIN rail mounting
Housing	Plastics housing DIN rail / 2 units (35 mm)
Article number	60400013

6 Startup

The KNX-GW-P1-REG is set up using the ETS (KNX Tool Software) and the applicable application program.
The gateway is delivered unprogrammed.
All functions are programmed and parameterized in the ETS.
Please read the ETS instructions.



7 Assembly

The **KNX-GW-P1** device is intended for DIN rail mounting in dry indoor environment.
Mounting is done by clipping the device on the DIN rail.
Protection class IP20 is achieved.

In Case of Bus Voltage Recurrence

The values of P1 devices are available again after a new reading.
The ETS parameter settings are retained.

Discharge Program and Reset Sensor

In order to delete the programming (projecting) and to reset the module back to delivery status, it must be switched to zero potential (disconnect the KNX bus coupler).
Press and hold the programming button while reconnecting the KNX-bus coupler and wait until the programming LED lights up (approx. 5-10 seconds).
Now you can release the programming button.
The module is ready for renewed projecting.
If you release the programming button too early, repeat the aforementioned procedure.

Imprint

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