3 Sensors

For further technical information please refer to the GAMMA building management systems manual or visit our Web site at:

http://www.siemens.de/gamma

Binary inputs

Selection and ordering data

	Number of inputs	Dimensions H × W × D	Input signal voltage, rated value	Order No.	Price	PG	Weight 1 item	PS*/ P. unit
		mm	V		1 item		kg	Items
Modular installation devices								
	Binary input devices for four mutually independent switching or sensing signals. Contact through the data rail. Width: 2 MW (1 MW = 18 mm)							
	**N 260**							
	4	–	230 AC	**5WG1 260-1AB01**		030	0.105	1
			120 AC	**5WG1 260-1CB01**		030	0.105	1
	**N 261**							
	The sensing voltage has to be generated externally.							
	4	–	24 AC/DC	**5WG1 261-1AB01**		030	0.105	1
				5WG1 261-1CB01		030	0.105	1
Device installation								
	**GE 262, 4 × signaling contacts**							
	Binary input device for four mutually independent switching or sensing signals. Contact through the bus terminal. The necessary sensing voltage is supplied by the device (no power supply unit required). Signal cable length: max. 100 m, unshielded							
	4	42 × 274.5 × 28	–	**5WG1 262-4AB02**		030	0.140	1
Installation in a flush-mounting box								
	**UP 220 pushbutton interface**							
	Binary input devices for connection of up to four conventional switches/ pushbuttons with potential-free contacts. For installation in equipment connecting sockets with Ø 60 mm, 60 mm deep (UP 220/02) or 40 mm (UP 220/03 or UP 220/03). The necessary sensing voltage is supplied by the device (no additional power supply unit required).							
	UP 220/02, quadruple							
	Signal cable set 280 mm long, max. length 5 m.							
	4	38 × 43 × 17.6 mm	–	**5WG1 220-2AB02**		030	0.043	1
				5WG1 220-2CB02		030	0.043	1
	**UP 220/03, quadruple** NEW							
	Signal cable set 280 mm long, max. length 10 m							
	4	42 x 42 x 8.5 mm (11 mm deep in the area of the bus terminal)	–	**5WG1 220-2AB03**		030	0.020	1
	**UP 220/13, double** NEW							
	Signal cable set 280 mm long, max. length 10 m							
	2	42 x 42 x 8.5 mm (11 mm deep in the area of the bus terminal)	–	**5WG1 220-2AB13**		030	0.015	1

* You can order this quantity or a multiple thereof.

Selection and ordering data

	Dimensions H × W × D	Order No.	Price	PG	Weight 1 item	PKG*/ P. unit
	mm		1 item		kg	Items
Surface mounting						
 AP 257/01	**Central weather system** The device detects, evaluates and uses other weather data in a bus installation. These weather data are detected by externally positioned sensors which are connected to the central weather system by cables. Dusk, temperature, light, rain and wind sensors are available. Tower mounting for the sensors and the wind rotor must be ordered separately. Rated voltage: 230 V AC 50 Hz Degree of protection: IP54 Applications: • Sun protection (blinds, canopies and shutters) • Protection of sections of buildings (windows, shutters, blinds, etc.) against rain, frost and storms • Conservatory/sunroom control (utilization of sun also possible) • Control of heating system for energy saving					
 AP 257/11	**AP 257/01 for 8 sensors** 160 × 250 × 55	**5WG1 257-3AB01**		030	1.338	1
	AP 257/11 for 4 sensors 150 × 200 × 55	**5WG1 257-3AB11**		030	1.185	1
Sensors for the central weather system						
	**AP 258/11 dusk sensor** Measuring range: 0 lux to 256 lux (linear) Receiving angle: 140 ° to 160 ° Degree of protection: IP65 64 × 58 × 38	**5WG1 258-3AB11**		030	0.124	1
	**AP 258/21 temperature sensor** Measuring range: -20 °C to +40 °C Degree of protection: IP65 64 × 58 × 38	**5WG1 258-3AB21**		030	0.123	1
	**AP 258/31 light sensor** Measuring range: 0 kLux to 40 kLux (linear) Receiving angle: 140 ° to 160 ° Degree of protection: IP65 64 × 58 × 38	**5WG1 258-3AB31**		030	0.125	1
	**AP 258/41 rain sensor, heated** Binary Degree of protection: IP65 54 × 76.5 × 18	**5WG1 258-3AB41**		030	0.447	1
	**Wind rotors** Can be used as sensors for the central weather system. Tower mounting must be ordered separately. **S 258/02, heated** NEW In order to use the heating function, an M 258/01 heating transformer is required, which must be ordered separately. Length 200 mm	**5WG1 258-7AB02**		030	0.950	1
	S 258/11, unheated Length 125 mm	**5WG1 258-7AB11**		030	0.406	1
Accessories for sensors and wind rotors						
 M 258/21  M 258/11	**Tower mountings** **M 258/21** for dusk, temperature, light and rain sensors	**5WG1 258-8AB21**		030	0.209	1
	M 258/11 for wind rotors	**5WG1 258-8AB11**		030	0.085	1
	**M 258/01 heating transformer** for the S 258/01 wind rotor	**5WG1 258-8AB01**		030	0.568	1

* You can order this quantity or a multiple thereof.

Time switches

Selection and ordering data

Number of channels	MW (1 MW = 18 mm)	Order No.	Price 1 item	PG	Weight 1 item kg	PS*/ P. unit Items
Modular installation devices						
 **2-channel REG 371** The time switch can be used as a day or week time switch. The connection is realized through the bus terminal. • 2 channels • 36 permanently storable switching times • Holiday switching function for interrupting the automatic program for a period of 1 ... 99 days by presetting 0 ... 99 days • Switching preselection • Summer/wintertime changeover acc. to CET, GB or USA changeover times • User-programmable block forming on one, several or all week-days. • Switch, priority, dim and value telegrams can be transmitted on each channel. • Temporary manual switching. • Permanent manual switching.						
2	2	**5WG1 371-5EY01**		030	0.148	1
 REG 372  REG 372/02	**4-channel REG 372** This time switches can be used as a day, week or year time switches. The connection is realized through the bus terminal. • 4 channels • 324 permanently storable switching times. • Apart from the standard week program, 9 additional week programs can be entered for each channel. These week programs can be called up by entering a start and end date. For example: week program no. 5 from December 24 to January 6. • Date switching commands and 1x date switching commands can supplement any week program. • Priority ON and OFF commands can be used to skip the switching program by entering a start and end date. • A random program can be activated • Temporary manual switching. • Permanent manual switching • User-programmable block forming of week-days and channels • Date and time can be transmitted to the *instabus* KNX *EIB* • Quartz control • Calendar-controlled automatic summer/wintertime changeover.					
	REG 372					
4	6	**5WG1 372-5EY01**		030	0.360	1
	REG 372/02 with DCF connection • Automatic time synchronization and daylight saving clock adjustment using DCF-77 radio signals • Additional AP 390 DCF-77 aerial (5WG1 390-3EY01) required					
4	6	**5WG1 372-5EY02**		030	0.464	1
	**REG 373 16-channel year time switch** The time switch can be used as a day, week or year time switch. The 64-Kbyte obelisk is included with the device. The connection is realized through the bus terminal. • 16 channels • 500 permanently storable switching times. • Astro program with calculation of sunrise and sunset times for the channels 1 to 4 • A random program can be activated for every channel. • Apart from the standard week program, 9 additional week programs can be entered for each channel. These week programs can be called up by entering a beginning and end date, e.g. week program no. 5 from December 24 to to January 6. • Date switching commands and 1x date switching commands can supplement any week program. • By means of priority commands, the standard program is overwritten for a desired period of time. • Timely limited manual control option. • Permanent manual control option. • Date and time can be transmitted to the *instabus* KNX *EIB* • Quartz control • Calendar-controlled automatic daylight saving clock adjustment. • Automatic time synchronization and summer/wintertime changeover using DCF-77 radio signals • Additional AP 390 DCF-77 aerial (5WG1 390-3EY01) required.					
16	6	**5WG1 373-5EY01**		030	0.481	1

* You can order this quantity or a multiple thereof.

	Dimensions H × W × D mm	Order No.	Price 1 item	PG	Weight 1 item kg	PKG*/ P. unit Items
Program transmitters						
	**PC programming set** Software for 4 and 16-channel time switch and OBELISK The PC programming set comprises a 4-Kbyte OBELISK memory card (EEPROM) for bidirectional program transmission between the PC and the time switch, a programming adapter and a software CD. Programming can be performed under Windows on the PC.	**5WG1 810-0EY01**		030	0.431	1
	**OBELISK** OBELISK memory card (EEPROM) for bidirectional program transmission between the PC and the time switch.					
	Program transmitter for 4-channel time switch, 4 Kbyte	**5WG1 810-8EY01**		030	0.023	1
	Program transmitter for 16-channel time switch, 64 Kbyte	**5WG1 810-8EY02**		030	0.021	1
DCF-77 aerial						
	**DCF-77 aerial AP 390** for REG 372/02 and REG 373 110 x 72 x 54	**5WG1 390-3EY01**		030	0.169	1

*** You can order this quantity or a multiple thereof.**

Brightness sensors

Selection and ordering data

	Dimensions H × W × D		Order No.	Price	PG	Weight 1 item	PS*/ P. unit
	mm			1 item		kg	Items
Device installation							
	The GE 252 and GE 254 brightness sensors are comprised of a converter and a receiver (light sensor) with a 2 m connecting lead (must not be lengthened). The converter is an oblong-shaped device, which makes it suitable e.g. for integration in lights for fluorescent lamps. However, it can also be mounted separately. The receiver is installed in ceilings with the help of a clamping spring and a rosette (included in delivery). The converter is supplied with the current brightness value detected by the receiver and controls the lighting through the *instabus* KNX *EIB*. Various application programs are available, such as calibration, constant light or two-position control and brightness read-out. Setting range: 150 lux to 1950 lux. Degree of protection: IP20						
	**GE 252** Converter: 42 × 274.5 × 28 Receiver: 25 × 77.4 × 28.5		**5WG1 252-4AB02**		030	0.345	1
	GE 254, for indirect lighting Converter: 42 × 274.5 × 28 Receiver: 25 × 71.6 × 28.5		**5WG1 254-4AB01**		030	0.345	1
	GE 253 The GE 253 brightness sensor measures the outdoor light intensity. It consists of a converter and a receiver (light sensor) with a 2 m connecting lead. The converter (a device of longitudinal design) is suitable for surface mounting, e.g. in false ceilings. The receiver can be installed indoors, e.g. on the inside of a window, with the help of a mounting set (included in delivery). The current brightness value detected by the receiver is transmitted through the converter onto the bus and can be processed further for daylight evaluation by the N 342 dimmer control block. Setting range: 0 lux to 16000 lux Degree of protection: IP20						
	Converter: 42 × 274.5 × 28 Receiver: 25 × 65.7 × 28.5		**5WG1 253-4AB01**		030	0.345	1

* You can order this quantity or a multiple thereof.

Selection and ordering data

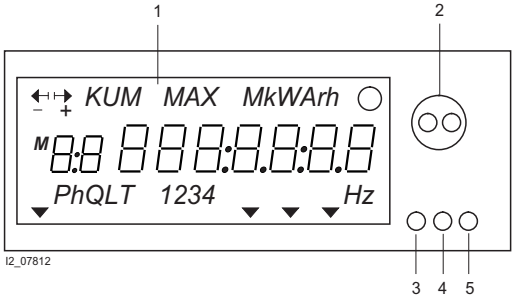
	Dimensions H × W × D	MW	Order No.	Price	PG	Weight 1 item	PS*/ P. unit
	mm	(1 MW =18 mm)		1 item		kg	Items
Temperature sensors							
	**N 258 temperature sensor for four Pt1000 sensors** NEW Four Pt1000 temperature sensors can be connected to the N 258 temperature sensor over 2-wire cables of up to 50 m. It is powered by an integral 230 V AC power supply unit. A green LED indicates that the device is ready for operation. The application program enables the measuring and transmission of temperatures within a range of - 40 °C to + 150 °C. The temperature for each measuring channel is measured cyclically (at a fixed cycle time of 1 s). Using the ETS, you can set whether the measured value is to be smoothed through mean value generation or whether it is to be transmitted cyclically or event-controlled after changing an adjustable difference value. In addition, an upper and lower limit can be monitored for each measured value. An adjustable hysteresis ensures that a measured value that continuously fluctuates around a limit value does not constantly cause an recurring limit violation with respective indication. Connection to the KNX *EIB* can be over the contact system to either a data rail or the bus terminal, which are internally connected through actuators. Connection: Pt1000 sensors Number of inputs: 4						
	–	4	**5WG1 258-1AB01**		030	0,242	1
Surface mounting							
	**AP 254 combination sensor** The AP 254 combination sensor detects brightness and temperature. These values can be sent onto the bus. In addition the device comes with the following threshold switches for controlling switch, dim and shutter/blind actuators dependent on the ambient brightness and/or temperature: • Threshold switch for brightness • Threshold switch for temperature • Threshold switch for shading (combination of brightness and temperature) • Power supply: through the bus voltage. Connections: 1 bus connection (through bus terminal) Measuring ranges: Brightness: 1 lux to 100 000 lux Temperature: -25 °C to 55 °C Sensing angle: horizontal +/- 60 °, vertical – 35 ° to + 66.5 ° Degree of protection: IP54 acc. to DIN EN 60529						
	110 x 72 x 54	–	**5WG1 254-3EY01**		030	0.174	1
	**AP 256 combination fire alarm** (discontinued model) The combination fire alarm with integrated bus coupling unit can be used for early detection of fires in buildings for which VDS-approved fire alarm systems (VDS - Association of Property Insurers) are not compulsory. It is modular in design, i.e. it has a base with an integrated bus coupling unit, and a sensor head that can be removed for maintenance and renovation work. Smoke and heat alarm messages as well as the current temperature value are output over the bus. There are also automatic signals indicating whether the sensor is defective or dirty and whether the sensor was disconnected from the base.						
	Ø 166, H = 64	–	**5WG1 256-3AB01**		030	0.240	1
Installation in a flush-mounting box							
	**UP 258 presence detector** (HTS) The presence detector needs a UP 110 or UP 114 bus coupling unit, which must be ordered separately. The monitoring radius equals 360° horizontally and approx. 120° vertically. A brightness sensor is integrated for real-brightness measurements at the workplace. The motion detector (for detecting small movements) learns the necessary response threshold of the ON phase by adaptive behavior. The device is suitable for ceiling mounting. The detection range lies between approx. 6 m and approx. 11 m, depending on the height of installation or room.						
	87 x 87 x 60	–	**5WG1 258-2AB11**		030	0.221	1

* You can order this quantity or a multiple thereof.

Measuring instruments

Overview

E meter with LCD display



1) Large 7-digit LCD display 8 × 4 mm

2) IR readout interface for connecting the readout measuring head

3) Display pushbutton

4) IR test output LED (10 IMP/W)

5) Sealable Set/Reset pushbutton

Readout data for consumption analysis

Manual readout

The above listed data can be read out and manually recorded directly on the E meter by pressing the 3) Set/Reset button and the 5) Display button. The E meter calculates the energy costs when the price per kWh is entered. The device number can be entered, making it easier to assign devices to a number system and costs to the various cost centers.

Readout software for the IR measuring head

The data from the table above is read into a PC using a magnetic IR measuring head and is then saved in an ASCII file according to IEC 61107. This ASCII file can be processed as an Excel or Access file. The program can be run on Windows 95, 98 and Windows NT.

Data transmission *instabus* KNX *EIB*

The following data transmission is possible with the 7KT1 162 and 7KT1 165 meters:
- Active energy (KWh) tariff 1
- Active energy (KWh) tariff 2
- Device number
- Active power (KW) phase L1
- Active power (KW) phase L2
- Active power (KW) phase L3.

Energy flow direction

Counting is only done in the assigned energy flow direction. With counters with transformer connection, the energy flow direction of the transformers (primary and secondary side) as well as the correct assignment of the voltage and current paths have to be observed.

Readout data on the LCD display or through IR interface

			7KT1 160 7KT1 162 7KT1 163 7KT1 165
Active energy	rate 1/2	kWh	x/x
Price per kWh, adjustable	rate 1/2	Cost/ kWh	x/x
Total costs	rate 1/2	total cost	x/x
Reactive energy	rate 1/2	kvarh	x/x
Apparent energy	rate 1/2	kVAh	–
Active power max. demand	rate 1/2	kW	–
Integration periods, adjustable	rate 1/2	min	–
Actual active power	total phase L1/L2/L3	kW kW	x x
Actual voltage	phase L1/L2/L3	V	–
Actual import	total phase L1/L2/L3	A A	– –
Actual current factor		FA I	x 1)
Actual reactive power	total phase L1/L2/L3	kvar kvar	– –
Actual apparent power	total phase L1/L2/L3	kVA kVA	– –
Actual power factor	phase L1/L2/L3	p. f.	–
Actual frequency		Hz	–
Device number, adjustable		No.	x

x = Data is displayed

1) Only for transformer meters.

Benefits

- PTB approval possible
- Accuracy class 2
- With 4 × 1.2 mm drum-type register or LCD display
- Short-circuit resistant pulse output
- With network analysis functions and direct cost display

Application

For measuring KWh in 1-phase and 3-phase networks, e.g. in industrial plants, office buildings and apartments in multiple dwellings. The models with LCD display are used as network analysis devices for consumption analysis and for minimizing operating costs in industrial plants and office buildings.

Selection and ordering data

	Display	I_e	U_e	MW	Order No.	Price 1 item	PG	Weight 1 item	PS*/ P. unit
		A AC	V AC					kg	Items
Modular installation devices									
	**E meters for 3/4 conductor connection, with LCD display, with IR interface for double rate**								
	Direct connection, with 2 S0 pulse outputs and *instabus* KNX *EIB* interface								
	Active and reactive power	10(63)	3 × 230/400	6	**7KT1 162**		027	0.450	1
	Transformer connection, with 2 S0 pulse outputs and *instabus* KNX *EIB* interface								
	Active and reactive power	Transformer/5(6)	3 × 230/400	6	**7KT1 165**		027	0.390	1

Accessories

		Order No.	Price 1 item	PG	Weight 1 item	PS*/ P. unit
					kg	Items
IR measuring head						
	**IR measuring head** for reading out data compliant with IEC 61107, with 9-pin COM connector and readout software	**7KT9 030**		027	0.170	1

* You can order this quantity or a multiple thereof.

Notes