Room Unit for Synco™ 700 Controllers

QAW740

KNX bus connection

Multifunctional, digital room unit for simple remote control of Synco™ 700 controllers.

Use

Use	Room unit in combination with a Synco™ 700 controller for plant in:

- Office and administrative buildings
- Business and sales premises
- Schools
- Hospitals
- Factory buildings and workshops
- Apartment buildings

Application — For use with Synco™ 700 controllers for heating, ventilation or air conditioning (HVAC) systems. Only usable for systems with KNX communication.

Functions

Main functions

- Remote control of a Synco™ 700 controller
- Room temperature measurement
- Communication via KNX

| Operator functions | • Relative temperature setpoint adjustment |
	• Preselection of operating mode with Mode button
	• Timer function with timer button
	• Display of operating mode, temperatures, timer function and faults

Type summary

Typ	Designation	Compatible with
QAW740	Room unit	Synco™ 700 controller

Note
Not suitable for use with the Synco™ RXB controller.

Technical design

Comfort setpoint relative
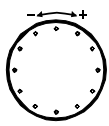
Using the setting knob on the room unit, both the Comfort and Precomfort setpoint ☀ ❄ can be readjusted by ± 3 °C (± 6 °F), which is then transmitted to the controller. The basic setting of the Comfort setpoint is made at the controller itself. During setting with the knob, the display changes to the correction value that is set. If no further settings are made, the setting is acknowledged by the return of the basic display with the actual room temperature value after a delay of 4 seconds.

Mode button
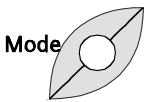
The Mode button is used to switch between automatic and manual mode. This efficiently matches the room temperature to the respective room use.

The change of operating mode with the Mode button can automatically be reset by making on the service level. In that case, a reset back to automatic mode is made after the selected period of time (1…99 Std.) has elapsed. However, this function is not activated as standard and the selected operating mode is maintained continuously.

Timer function

The timer function starts an adjustable time period during which comfort mode is sustained. This function is started by pressing the timer button, and the required period of time for the function is adjusted with the setting Knob, the increments being 15 minutes. When starting the function, the time period used last will appear. A maximum adjustment of 20 hours from the setting time is possible. The room unit transmits the set adjustment to the controller via the bus, but the actual time switch program in the controller remains unchanged.

Measured value readjustement of room temperature

In case of deviations from the displayed value, the measured room temperature value can be adjusted in the range –4.5…4.5 °C. The room unit transmits the resultant actual value via the bus and indicates it on the display.

Unit

The display in °C or °F can be selected.

Fault status messages	Short-circuit or open-circuit of the room sensor is indicated by a bell symbol on the display. The room unit transmits such errors via the bus.
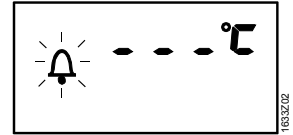
The bell symbol also indicates alarms that the assigned controller transmits to the room unit via the bus. The actual temperature value remains on display. In case of a device address conflict, the display changes to this setting.

Communication	The room unit has a device address and a geographical zone, which it uses for communication with the controller and other devices on the bus system. Therefore, address assignment must be planned for data to be transmitted correctly.
Device address (d)	The room unit automatically provides the device address the first time it is powered up, or it searches for a free device address at the push of a button. However, manual changes are also possible.
Geographical zone (A)	The geographical zone (apartment) must match that of the controller, so it must be entered during installation.
Bus traffic	Bus traffic, which is mainly influenced by the frequency of room temperature measured values, can be limited using the room temperature threshold function. The device does not transmit a measured value until it exceeds the threshold value.
KNX	The room unit is intended for LTE mode, but is capable of KNX S-mode integration. Therefore, consult the KNX bus system description for planning and installation.

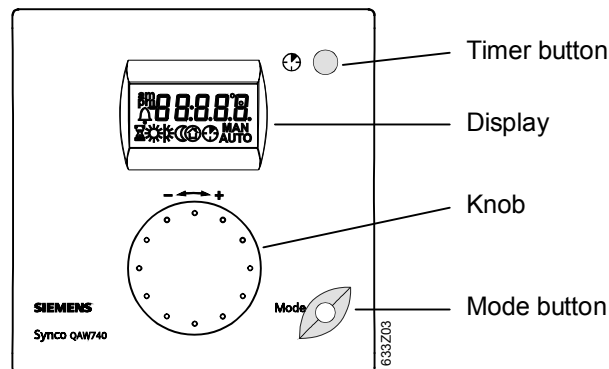| **Commissioning**	The service level and expert level are used for commissioning. The procedure is described in Installation Instructions CE1G1633.

Mechanical design

Room unit	The unit consists of the following components:

- Housing with integrated electronics and operating elements
- Base for wall mounting with the connection terminals

Operating elements

Mounting and installation notes

Product liability
- The products may only be used in building services plant and applications as described above
- When using the products, all requirements specified under "Technical data" must be observed

Engineering
- Mounting in recreation or reference room
- The place of installation should be chosen so that the sensor can capture the room temperature as accurately as possible, without being affected by direct solar radiation or other heating or cooling sources
- Mounting height is about 1.5 meters above the floor
- The basic principles of the KNX bus system must be observed (see documents CE1N3127 and CE1P3127)
- The unit can be fitted to most commercially available recessed conduit boxes or directly on the wall
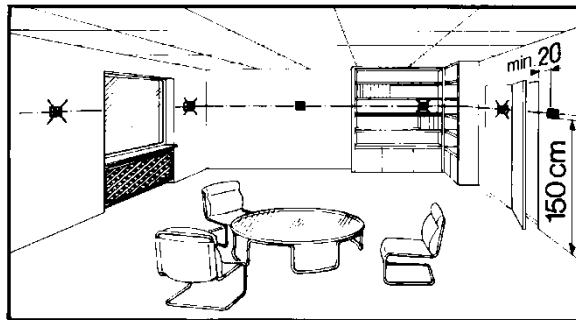
Installation
- Wall mounting with base
- The controller must not be exposed to dripping water

Installation and operation
- For the electrical installation, the local safety regulations and standards must be complied with
- Installation and operating instructions are enclosed with each device

General notes

Maintenance

The room unit QAW740 is maintenance free (no battery changes, no fuses). The housing may only be cleaned with a dry towel.

Repair

The room unit cannot be repaired on site.

Disposal

The device is considered electrical and electronic equipment for disposal in terms of the applicable European Directive and may not be disposed of as domestic garbage.
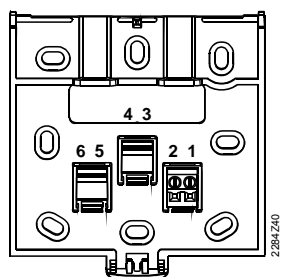
- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Technical data

Room temperature measurement	Measuring range	0…45 °C
	Time constant	13 min
Interfaces	KNX bus	
	Type of interface	KNX-TP1
	Transceiver	TP-UART
	Baud rate	9.6 kBit/s
	Current draw bus	7.5 mA
	Bus loading number (SBT)	1.2
	For more information about the KNX bus, refer to the following pieces of documentation:	Data sheet CE1N3127en, Basic documentation CE1P3127en
Wiring connections	KNX bus	As per data sheet CE1N3127en
	Type of cable	2-wire, unshielded twisted pair; connections non-interchangeable as per data sheet CE1N3127en
Degree of protection	Protection class	III according to EN 60730-1
	Protection degree of housing	IP40 according to EN 60529
	Degree of pollution	2 according to EN 60730-1 suitable for residential, commercial and industrial environments
Environmental conditions	Operation	Class 3K5 to IEC 721-3-3
	Temperature	0…50 °C (noncondensing)
	Humidity	< 85 % rh
	Transport	Class 2K3 to IEC 721-3-2
	Temperature	–25...70 °C
	Humidity	< 95 % rh
	Storage	Class 1K3 to IEC 721-3-1
	Temperature	–25...70 °C
	Humidity	< 95 % rh
Directives and Standards	Product standard	EN 60730-1 Automatic electrical controls for household and similar use
	Electromagnetic compatibility (Applications)	For use in residential, commerce, light-industrial and industrial environments
	EU Conformity (CE)	CE1T1633xx [*)]
	EAC conformity	Eurasia conformity
	RCM conformity	8000065172 *)
Environmental compatibility	The product environmental declaration CE1E1633en[*)] contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	
Other features	Software class	A to EN 60730-1
	Housing color	
	Front	White NCS S 0502-G
	Back	Grey NCS 2801-Y43R
	Weight	Approx. 0.115 kg

*) The documents can be downloaded from http://siemens.com/bt/download.

Connection diagram

1	CE+	KNX bus data line, positive
2	CE-	KNX bus data line, negative
3	-	-
4	-	-
5	-	-
6	-	-

Dimensions
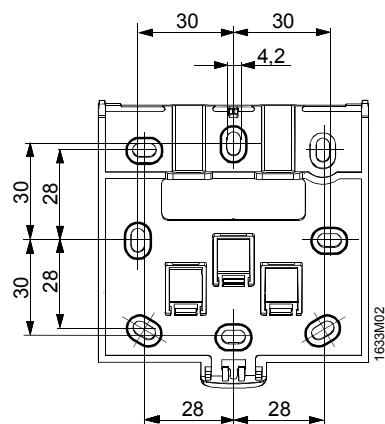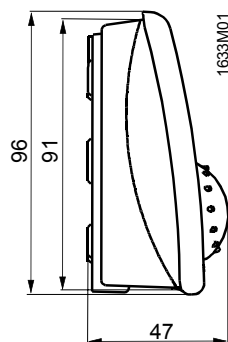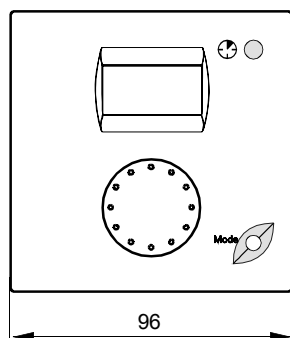
© Siemens Switzerland Ltd 2003
Delivery and technical specifications subject to change

Siemens
Building Technologies

Room unit QAW740

CE1N1633en
2018-03-15