# SIEMENS



Desigo™ RXC

**Room controller** 

## RXC10.1 RXC10.5

for chilled ceilings, radiators, and VAV applications with LONMARK®-compatible bus communications

The RXC10 room controller is used for temperature control in individual rooms.

- For chilled ceilings, radiators, and VAV applications
- PI or PID control (dependent on application)
- Downloadable application software
- LONMARK®-compatible bus communications
- Integrated into the Desigo building automation and control system
- Control of thermic valve actuators, AC 24 V, PDM<sup>1</sup>
- Operating voltage AC 24 V
- 1) PDM = pulse/duration modulated

#### Application

The RXC10 room controller is optimized for the control of chilled ceilings, radiator-type heating, and VAV applications at individual room level.

The controller application is determined by downloadable application software, also referred to simply as the "application". The various applications and the associated functions are described in detail in the Desigo RXC applications library (V1: CA2A3810, V2:CA110300).

The controllers are delivered pre-loaded with basic application 00010. The basic application, which contains only I/O module functions, is overwritten with the definitive application in the commissioning phase. The RXT10 commissioning and service tool is used for this purpose (see "Commissioning"). **Use as an I/O module** In conjunction with a building automation and control system, the RXC10 controller can also be used as a universal input module, e.g. to register the room temperature from digital signals or a setpoint reset unit.

In this case, the controller is loaded with basic application 00010. The inputs can then be interrogated via the building automation and control system.

#### Functions

The controller functions are determined by the selected application and its parameters, and by the input/output configuration.

For a detailed description of functions, refer to the Desigo RXC applications library. (V1: CA2A3810, V2:CA110300).

When Desigo RXC is integrated into a building automation and control system, additional functions become available, such as time scheduling, central control of setpoints etc. (refer to the Desigo INSIGHT documentation for further information).

#### Types

Product No.	Stock number	Designation
RXC10.5/00010	S55373-C110	Room controller

#### Ordering

When ordering, please specify the quantity, product name, type code and application. The controller is loaded with basic application 00010.

Example: 30 Room controllers

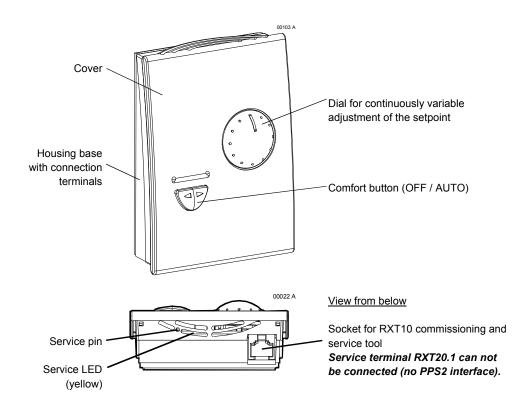
RXC10.5/00010

#### Compatibility

The RXC10 controller can be used in conjunction with the Siemens field devices. For details, refer to the RX hardware overview, CA2N3804.

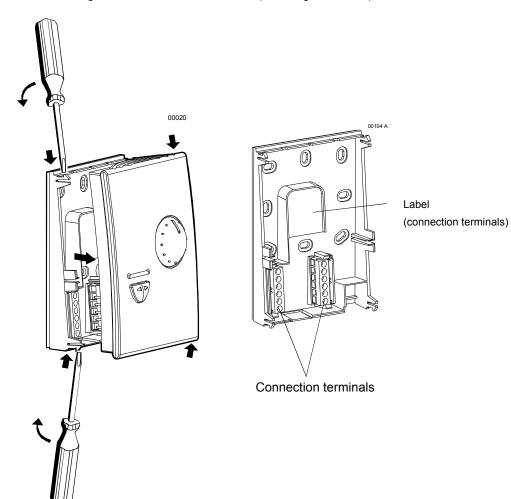
#### Mechanical design

The RXC10 controller comprises a housing base with connection terminals and a cover incorporating the printed circuit board and the operator controls. The controller also has a tool socket, a service LED and a service pin.

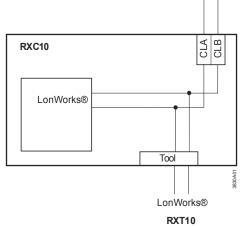


#### **Terminal cover**

The connection terminals are located in the housing base. To connect the terminals, the housing cover must first be removed (see diagram below).



Label (inside housing)		SIEME	ENS	10
				3830Z01_01
	Bar code, Code 128 (Identification number of Neuron chip)	RXC10.5/00010 S55373-C110 Origin: Switzerland Siemens Switzer		Ř
	Identification number of Neuron chip			
	Test date, series (Z, A, B, C)	ID: RES01 AC 24V~/2VA class 2	50/60 Hz IP30	Protection standard Location
	Preloaded application(example)		Loc.: Appl.:	Definitive application loaded
Note	Options for use of the lab	elling fields "Appl." and	d "Loc.":	
	<ul><li>Hand-written entry of t</li><li>Printed adhesive label</li></ul>		••	
Connection terminals	The two rows of terminals cover"). They can be rem		•	he diagram "Terminal
Communication	The RXC10 controller con	mmunicates with other	devices via the fol	llowing interfaces:
	<ul> <li>LONWORKS® bus (term         <ul> <li>PXR system control</li> <li>Other Desigo RXC (</li> <li>LONMARK®-compati</li> </ul> </li> <li>Tool socket (RJ45) on         <ul> <li>RXT10 commission</li> </ul> </li> </ul>	ler or NIDES.RX interfa devices ble 3 <sup>rd</sup> party devices (e the controller, for:	ace (to Desigo) e.g. presence dete	
LonWorks® bus	The following diagram sh RXT10 commissioning ar	•	ONWORKS® bus a	nd interface to the
		LonWorks® Bus		



#### Service LED

The yellow service LED shows the current operational status of the controller by means of different flashing patterns (see the RXT10 user manual, CA110338).

Service pin	The service pin is used to identify the controller in the commissioning phase. When the pin is pressed, the controller's identification number is transmitted to the RXT10 commissioning and service tool.	
Disposal		
X	The devices are classified as waste electronic equipment in terms of the European Direc- tive 2002/96/EC (WEEE) and should not be disposed of as unsorted municipal waste. The relevant national legal rules are to be adhered to. Regarding disposal, use the systems setup for collecting electronic waste. Observe all local and applicable laws.	
Engineering notes		
	The Desigo RXC installation guide, document CA110334, contains the relevant engineering information for the LONWORKS® bus (topology, bus repeaters, bus termination etc.) and for the selection and dimensions of connecting cables for the supply voltage and field devices.	
	The controller operates with an AC 24 V supply voltage. Connected valves are supplied directly from the controller.	
AC 24 V triac outputs	The simultaneous load on outputs Y1 and Y2 must not exceed 9.5 VA.	
	<ul> <li>Example: Y1 (heating) 2 thermic valve actuators, type STP72E 6 W</li> <li>Y2 (cooling) 2 thermic valve actuators, type STP72E 6 W</li> <li>The maximum load is 9.5 VA for the heating sequence and 9.5 VA for the cooling sequence. This is acceptable because the two sequences never operate at the same time.</li> </ul>	
Mounting		
	The mounting instructions are printed on the controller packaging, together with a drilling template.	
STOP Caution!	The unit is not protected against accidental connection to AC 230 V.	
Commissioning		
	The RXC10 controller is commissioned with the RXT10 commissioning and service tool. For this purpose, the RXT10 is connected to the LONWORKS® bus via the tool socket on the controller.	
	The commissioning procedure for the entire Desigo RXC range is described in detail in the RXT10 user manual, document CA110338.	

LabelingThe labeling fields "Appl." and "Loc." are used to indicate the application actually loaded<br/>and the location of the controller, either in writing or by use of printed adhesive labels<br/>(see "Label" under "Mechanical design").Function testWith all applications (including basic application 00010), the inputs can be interrogated<br/>and the outputs overridden using the RXT10 commissioning and service tool.

Δ Power supply         Operating voltage Rated voltage         SELV / FELV AC 24 V ± 20% AC 24 V           Rated voltage         AC 24 V           Power consumption         Max. 2 VA + external load           Internal fuse         None           Operating data         Control algorithm         Pl or PID           Temperature sensor         NTC resistance sensor           Measuring accuracy (25 °C)         ± 0.25 °C           Measuring accuracy (25 °C)         ± 0.5 °C           Setpoint correction         Correction range           Correction range         max. ± 12 K (default ± 3 K)           Accuracy over full correction range         Approx. DC 30 V (pulsed)           Contact unitage         Approx. DC 30 V (pulsed)           Contact unitage         Approx. DC 10 mA (pulsed)           Contact unitage         Approx. DC 10 mA (pulsed)           Contact unitage         Approx. DC 10 mA (pulsed)           Contact insulation resistance         Max. 100 Ω           Not suitable for pulse control         Duputs           Triac ouptuts Y1, Y2         Quantity         2           Output voltage         AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)           Load current per triac         Max. 9.5 A           (with load at both         (e.g. 2 th	•		
Frequency         50/60 Hz           Power consumption         Max. 2 VA + external load           Internal fuse         None           Operating data         Control algorithm         Pl or PID           Temperature sensor         NTC resistance sensor         NTC resistance sensor           Measuring accuracy (25 °C)         ± 0.25 °C         ± 0.25 °C           Measuring accuracy (0 30 °C)         ± 0.5 °C         Setpoint correction           Correction range         max. ± 12 K (default ± 3 K)         Concuracy over full correction range           Signal inputs D1, D2         Quantity         2         Contact voltage           Contact voltage         Approx. DC 30 V (pulsed)         Contact transfer resistance         Max. 100 Ω           Contact insulation resistance         Max. 100 Ω         Max. 100 Ω         Contact insulation resistance         Max. 0.5 A           Trice ouptuts Y1, Y2         Quantity         2         Quiput voltage         AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)           Load current per triac         Max. 0.5 A         Max. 9.5 VA           Vith load at both         (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         heating and cooling sequence           Load current per triac         Max. 9.5 VA         Max. 0.5 N         Nominal voltage ran	A Power supply		
Power consumption Internal fuse         Max. 2 VA + external load None           Operating data         Control algorithm Temperature sensor         Pl or PID NTC resistance sensor           Measuring range         5 40°C           Response time         ≤ 8 min           Measuring accuracy (25 °C)         ± 0.5 °C           Measuring accuracy (25 °C)         ± 0.5 °C           Septoint correction Correction range         max. ± 12 K (default ± 3 K)           Accuracy over full correction range         10%           Inputs         Quantity         2           Signal inputs D1, D2 (for volt-free contacts)         Quantity         2           Contact outlage Contact voltage         Approx. DC 30 V (pulsed) Contact transfer resistance         Max. 100 Ω           Contact insulation resistance         Min. 50 kΩ         Not suitable for pulse control           Outputs         Quantity         2         Output voltage           Triac oupluts Y1, Y2         Quantity         2         Output voltage           Load current per triac         Max. 95 VA         (with load at both (e.g. 2 thermic valves, type STE72 per output simultaneously)         heating and cooling sequence 1 with sing and cooling sequence           Internal fuse         20.5 V         Resolution         8 bits (50 mV)           Output current Resolution		-	AC 24 V
Internal fuse         None           Operating data         Control algorithm Temperature sensor Measuring range         PI or PID NTC resistance sensor Measuring accuracy (25 °C)         ± 0.25 °C           Measuring accuracy (0 30 °C)         ± 0.5 °C         Setpoint correction Correction range         max. ± 12 K (default ± 3 K)           Accuracy over full correction range         max. ± 12 K (default ± 3 K)         Accuracy over full correction range           Signal inputs D1, D2 (for volt-free contacts)         Quantity         2           Contract current         Approx. DC 30 V (pulsed) Contact current         Approx. DC 30 V (pulsed) Contact current           Contact insulation resistance         Max. 100 Ω           Not suitable for pulse control         Volume           Outputs         Triac ouptuts Y1, Y2         Quantity           Quantity         2         Contact current per triac         Max. 05 KΩ           Total nominal load         Max. 9.5 VA         (with load at both outputs simultaneously)         (e.g. 2 thermic valves, type STE72 per heating and cooling sequence           Control output YC1         Quantity         1         Nominal voltage range         DC 0 10V           Overange         20.5 V         Resolution         8 bits (50 mV)         Output current           Resolution         abits (50 mV)         Output current			50/60 Hz
Operating data         Control algorithm Temperature sensor Measuring range         PI or PID Stressistance sensor           Measuring accuracy (25 °C)         ± 0.25 °C           Measuring accuracy (25 °C)         ± 0.5 °C           Measuring accuracy (25 °C)         ± 0.5 °C           Setpoint correction Correction range         max. ± 12 K (default ± 3 K)           Accuracy over full correction range         10%           Inputs         Ouantity         2           Signal inputs D1, D2 (for volt-free contacts)         Quantity         2           Contact voltage (for volt-free contacts)         Quantity         2           Contact voltage (contact turneft         Approx. DC 30 V (pulsed) Contact turnsfer resistance         Max. 100 Ω           Not suitable for pulse control         Max. 100 Ω         Max. 100 Ω           Outputs         Triac ouptuts Y1, Y2         Quantity         2           Control output voltage         AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)           Load current per triac         Max. 0.5 A           Total nominal load         Max. 9.5 VA           (with load at both         (e.g. 2 thermic valves, type STE72 per outputs simultaneously)           Interface type         20.5 V           Resolution         8 bits (50 mV)           Output curre		-	Max. 2 VA + external load
Temperature sensor     NTC resistance sensor       Measuring range     5 40°C       Response time     4 8 min       Measuring accuracy (25 °C)     ± 0.25 °C       Measuring accuracy (0 30 °C)     ± 0.5 °C       Setpoint correction     Correction range       Correction range     max. ± 12 K (default ± 3 K)       Accuracy over full correction range     10%       Inputs     Contact voltage       Signal inputs D1, D2     Quantity       Contact voltage     Approx. DC 30 V (pulsed)       Contact current     Approx. DC 10 mA (pulsed)       Contact transfer resistance     Max. 100 Ω       Contact insulation resistance     Max. 100 Ω       Not suitable for pulse control     Max. 05 Ω       Dutputs     2       Triac ouptuts Y1, Y2     Quantity       Quantity     2       Uotad current per triac     Max. 0.5 A       Total nominal load     Max. 9.5 VA       (with load at both     (e, g. 2 thermic valves, type STE72 per outputs simultaneously)       Internal fuse     2 A (both outputs together)       Control output YC1     Quantity     1       Nominal voltage range     DC 0 10V       Overrange     20.5 V       Resolution     8 bits (50 mV)       Output current     Max. 1 mA		Internal fuse	None
Temperature sensor     NTC resistance sensor       Measuring range     5 40°C       Response time     4 8 min       Measuring accuracy (25 °C)     ± 0.25 °C       Measuring accuracy (0 30 °C)     ± 0.5 °C       Setpoint correction     Correction range       Correction range     max. ± 12 K (default ± 3 K)       Accuracy over full correction range     10%       Inputs     Contact voltage       Signal inputs D1, D2     Quantity       Contact voltage     Approx. DC 30 V (pulsed)       Contact current     Approx. DC 10 mA (pulsed)       Contact transfer resistance     Max. 100 Ω       Contact insulation resistance     Max. 100 Ω       Not suitable for pulse control     Max. 05 Ω       Dutputs     2       Triac ouptuts Y1, Y2     Quantity       Quantity     2       Uotad current per triac     Max. 0.5 A       Total nominal load     Max. 9.5 VA       (with load at both     (e, g. 2 thermic valves, type STE72 per outputs simultaneously)       Internal fuse     2 A (both outputs together)       Control output YC1     Quantity     1       Nominal voltage range     DC 0 10V       Overrange     20.5 V       Resolution     8 bits (50 mV)       Output current     Max. 1 mA	Operating data	Control algorithm	PL or PID
Measuring range       5 40°C         Response time       ≤ 8 min         Measuring accuracy (25 °C)       ± 0.2 5°C         Measuring accuracy (0 30 °C)       ± 0.5 °C         Setpoint correction       max. ± 12 K (default ± 3 K)         Accuracy over full correction range       max. ± 12 K (default ± 3 K)         Accuracy over full correction range       10%         Signal inputs D1, D2       Quantity       2         (for volt-free contacts)       Contact voltage       Approx. DC 30 V (pulsed)         Contact current       Approx. DC 30 Ω       (pulsed)         Contact current       Approx. DC 10 mA (pulsed)       Contact current         Contact current       Max. 100 Ω       Contact current       Max. 100 Ω         Contact current or pulse control       Max. 100 Ω       Contact outge       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A       Total nominal load       Max. 0.5 A         Total nominal load       Max. 9.5 VA       (with hoad at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2.0 (both outputs together)       10         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V	opolating and	-	
Response time     ≤ 8 min       Measuring accuracy (25 °C)     ± 0.25 °C       Measuring accuracy (0 30 °C)     ± 0.5 °C       Setpoint correction     Correction range       Accuracy over full correction range     max. ± 12 K (default ± 3 K)       Accuracy over full correction range     10%       Inputs     Signal inputs D1, D2     Quantity       (for volt-free contacts)     Contact voltage     Approx. DC 30 V (pulsed)       Contact current     Approx. DC 10 mA (pulsed)       Contact transfer resistance     Max. 100 Ω       Contact insulation resistance     Min. 50 kΩ       Not suitable for pulse control     Max. 05 A       Triac ouptuls Y1, Y2     Quantity     2       Outputs     Contact dat a both     (e.g. 2 thermic valves, type STE72 per outputs values, type STE72 per outputs simultaneously)       Load current per triac     Max. 0.5 A       Total nominal load     Max. 9.5 VA       (with load at both     (e.g. 2 thermic valves, type STE72 per outputs simultaneously)       Internal fuse     2 A (both outputs together)       Control output YC1     Quantity     1       Norminal voltage range     DC 0 10V       Overrange     20.5 V       Resolution     8 bits (50 mV)       Output current     Max. 1 mA       Response time     100 ms <td></td> <td>-</td> <td></td>		-	
Measuring accuracy (25 °C)       ± 0.25 °C         Measuring accuracy (030 °C)       ± 0.5 °C         Setpoint correction       Correction range         Correction range       max. ± 12 K (default ± 3 K)         Accuracy over full correction range       10%         Inputs       Signal inputs D1, D2       Quantity       2         Contact voltage       Approx. DC 30 V (pulsed)       Contact voltage         Contact current       Approx. DC 10 mA (pulsed)       Contact voltage         Contact transfer resistance       Max. 100 Ω         Contact insulation resistance       Min. 50 kΩ         Not suitable for pulse control       Contact ourge         Outputs       Cuantity       2         Triac ouptuts Y1, Y2       Quantity       2         Control output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A         Total nominal load       Max 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       D0.5 V         Response time       100 ms <tr< td=""><td></td><td></td><td></td></tr<>			
Measuring accuracy (0 30 °C)       ± 0.5 °C         Setpoint correction       max. ± 12 K (default ± 3 K)         Accuracy over full correction range       10%         Inputs       Signal inputs D1, D2       Quantity       2         (for volt-free contacts)       Quantity       2       Contact voltage       Approx. DC 30 V (pulsed)         Contact current       Approx. DC 10 mA (pulsed)       Contact transfer resistance       Max. 100 Ω         Contact insulation resistance       Min. 50 kΩ       Max. 100 Ω         Outputs       Contact transfer resistance       Max. 50 Ω         Triac ouptuts Y1, Y2       Quantity       2         Output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       20.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms		-	
Setpoint correction Correction range       max. ± 12 K (default ± 3 K) Accuracy over full correction range         Inputs       Signal inputs D1, D2       Quantity       2         (for volt-free contacts)       Quantity       2         Contact voltage       Approx. DC 30 V (pulsed) Contact current       Approx. DC 30 V (pulsed)         Contact current       Approx. DC 10 mA (pulsed)       Contact current         Contact insulation resistance       Max. 100 Ω       Max. 100 Ω         Contact insulation resistance       Min. 50 kΩ       Mot suitable for pulse control         Outputs         Triac ouptuts Y1, Y2       Quantity       2         Output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs gequence         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Resone time       100 ms   Port			
Correction range         max. ± 12 K (default ± 3 K) Accuracy over full correction range           Inputs         Signal inputs D1, D2 (for volt-free contacts)         Quantity         2           Contact voltage         Approx. DC 30 V (pulsed) Contact current         Approx. DC 10 mA (pulsed) Contact transfer resistance           Not suitable for pulse control         Max. 100 Ω           Outputs         Triac ouptuts Y1, Y2         Quantity         2           Contact current contact masser resistance         Min. 50 kΩ         Not suitable for pulse control           Outputs         Triac ouptuts Y1, Y2         Quantity         2           Contact current per triac         Max. 0.5 A         Max. 0.5 A           Total nominal load         Max. 9.5 VA         (with load at both           (with load at both         (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         heating and cooling sequence           Internal fuse         2 A (both outputs together)         Control output YC1         Quantity           Nominal voltage range         DC 0 10V         Overrange         20.5 V           Resolution         8 bits (50 mV)         Output current         Max. 1 mA           Response time         100 ms         Tool output NC1.1: FTT-10A           On RXC10.1: FTT-10A         On RXC10.1: S: FT 5000         DR KB			10.5 6
Accuracy over full correction range         10%           Inputs         Signal inputs D1, D2 (for volt-free contacts)         Quantity         2           Contact voltage         Approx. DC 30 V (pulsed) Contact transfer resistance         Max. 100 Ω           Contact transfer resistance         Max. 100 Ω           Contact transfer resistance         Min. 50 kΩ           Not suitable for pulse control         V           Outputs         2           Triac ouptuts Y1, Y2         Quantity         2           Load current per triac         Max. 0.5 A           Total nominal load         Max. 9.5 VA           (with load at both         (e.g. 2 thermic valves, type STE72 per outputs simultaneously)           Internal fuse         2 A (both outputs together)           Control output YC1         Quantity         1           Nominal voltage range         DC 0 10V           Overrange         ≥0.5 V           Resolution         8 bits (50 mV)           Output current         Max. 1 mA           Response time         100 ms           Ports         LonWARk®-compatible, electrically isolated           LonWWorks® bus         Interface type         LonMARk®-compatible, electrically isolated           Transceiver         On RXC10.15. FT 5000			max + 12 K (default + 3 K)
Inputs       Signal inputs D1, D2       Quantity       2         (for volt-free contacts)       Contact voltage       Approx. DC 30 V (pulsed)         Contact current       Approx. DC 10 mA (pulsed)         Contact transfer resistance       Max. 100 Ω         Contact insulation resistance       Min. 50 kΩ         Not suitable for pulse control       Voltage         Coutputs       Counce to insulation resistance         Triac ouptuts Y1, Y2       Quantity       2         Output outage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       20 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       LonWorks® bus       Interface type         LonWorks® bus       Interface type       LonMARK®-compatible, electrically isolated         Transce		-	
Signal inputs D1, D2 (for volt-free contacts)Quantity2 Contact voltage Contact current Contact transfer resistance Not suitable for pulse controlApprox. DC 30 V (pulsed) Approx. DC 10 mA (pulsed) Contact transfer resistance Max. 100 Ω Contact transfer resistance Not suitable for pulse controlOutputs2Triac ouptuts Y1, Y2Quantity Output voltage Load current per triac Total nominal load (with load at both (kepending on application parameters) Load current per triac Total nominal load (with load at both outputs simultaneously) Internal fuse1 Nominal voltage ange 20.5 VControl output YC1Quantity Resolution Output current Resolution1 Nominal voltage range 20.5 VPorts LonWVorkKS® busInterface type Interface type TransceiverLonMARK®-compatible, electrically isolated On RXC10.1: FTT-10A On RXC10.5: FT 5000 FT 5000			10 %
Signal inputs D1, D2 (for volt-free contacts)Quantity2 Contact voltage Contact current Contact transfer resistance Not suitable for pulse controlApprox. DC 30 V (pulsed) Approx. DC 10 mA (pulsed) Contact transfer resistance Max. 100 Ω Contact transfer resistance Not suitable for pulse controlOutputs2Triac ouptuts Y1, Y2Quantity Output voltage Load current per triac Total nominal load (with load at both (kepending on application parameters) Load current per triac Total nominal load (with load at both outputs simultaneously) Internal fuse1 Nominal voltage ange 20.5 VControl output YC1Quantity Resolution Output current Resolution1 Nominal voltage range 20.5 VPorts 	Inputs		
(for volt-free contacts)       Contact voltage       Approx. DC 30 V (pulsed)         Contact current       Approx. DC 10 mA (pulsed)         Contact transfer resistance       Max. 100 Ω         Contact insulation resistance       Min. 50 kΩ         Not suitable for pulse control       Min. 50 kΩ         Outputs         Triac ouptuts Y1, Y2       Quantity         Quantity       2         Output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       20.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Resolution       8 bits (50 mV)         Output current       Max. 1 mA	-	Quantity	2
Contact current     Approx. DC 10 mA (pulsed)       Contact transfer resistance     Max. 100 Ω       Contact insulation resistance     Min. 50 kΩ       Not suitable for pulse control     Not suitable for pulse control         Outputs     2       Triac ouptuts Y1, Y2     Quantity     2       Output voltage     AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)       Load current per triac     Max. 0.5 A       Total nominal load     Max. 9.5 VA       (with load at both     (e.g. 2 thermic valves, type STE72 per outputs simultaneously)       Internal fuse     2 A (both outputs together)       Control output YC1     Quantity     1       Nominal voltage range     DC 0 10V       Overrange     ≥0.5 V       Resolution     8 bits (50 mV)       Output current     Max. 1 mA       Response time     100 ms       Ports     Interface type       LonWorks® bus     Interface type       Interface type     LonMARK®-compatible, electrically isolated       Transceiver     On RXC10.1: FTT-10A       On RXC10.5: FT 5000     Baud rate	• •	-	Approx. DC 30 V (pulsed)
Contact transfer resistance Contact insulation resistance Not suitable for pulse control       Max. 100 Ω         Outputs       Nin. 50 kΩ         Triac ouptuts Y1, Y2       Quantity       2         Output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 9.5 VA         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type       LonMARK®-compatible, electrically isolated         LonWorks® bus       Interface type       LonMARK®-compatible, electrically isolated         Transceiver       On RXC10.1: FTT-10A On RXC10.5: FT 5000         Baud rate       78 kBit/s	· · ·	-	Approx. DC 10 mA (pulsed)
Outputs       Cuantity       2         Triac ouptuts Y1, Y2       Quantity       2         Output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)         Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type       LoNMARK®-compatible, electrically isolated         Transceiver       On RXC10.5: FT 5000         Baud rate       78 kBit/s		Contact transfer resistance	
Outputs       Image: Control output SY1, Y2       Quantity       2         Output voltage       AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)       Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA       (with load at both (e.g. 2 thermic valves, type STE72 per outputs simultaneously)       heating and cooling sequence         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       20.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type       LonMARK®-compatible, electrically isolated         Transceiver       On RXC10.1: FTT-10A       On RXC10.5: FT 5000         Baud rate       78 kBit/s       Direction		Contact insulation resistance	Min. 50 kΩ
Triac ouptuts Y1, Y2Quantity2Output voltageAC 24 V ON/OFF, PDM or 3-position (depending on application parameters)Load current per triacMax. 0.5 ATotal nominal loadMax. 9.5 VA(with load at both (with load at both (with load at both)(e.g. 2 thermic valves, type STE72 per outputs simultaneously) heating and cooling sequence 2 A (both outputs together)Control output YC1Quantity1Nominal voltage range Overrange ResolutionDC 0 10V 2 0.5 VPortsResponse time100 msLonWorks® busInterface typeLonMark®-compatible, electrically isolated On RXC10.1: FTT-10A On RXC10.5: FT 5000Baud rate78 kBit/s		Not suitable for pulse control	
Triac ouptuts Y1, Y2Quantity2Output voltageAC 24 V ON/OFF, PDM or 3-position (depending on application parameters)Load current per triacMax. 0.5 ATotal nominal loadMax. 9.5 VA(with load at both (with load at both (with load at both)(e.g. 2 thermic valves, type STE72 per outputs simultaneously) heating and cooling sequence 2 A (both outputs together)Control output YC1Quantity1Nominal voltage range Overrange ResolutionDC 0 10V 2 0.5 VPortsResponse time100 msLonWorks® busInterface typeLonMark®-compatible, electrically isolated On RXC10.1: FTT-10A On RXC10.5: FT 5000Baud rate78 kBit/s			
Output voltage     AC 24 V ON/OFF, PDM or 3-position (depending on application parameters)       Load current per triac     Max. 0.5 A       Total nominal load     Max. 9.5 VA       (with load at both     (e.g. 2 thermic valves, type STE72 per outputs simultaneously)       Internal fuse     2 A (both outputs coding sequence 2 A (both outputs together)       Control output YC1     Quantity     1       Nominal voltage range     DC 0 10V       Overrange     ≥0.5 V       Resolution     8 bits (50 mV)       Output current     Max. 1 mA       Response time     100 ms       Ports     Interface type       LonWWorks® bus     Interface type       Interface type     ConMARK®-compatible, electrically isolated       Transceiver     On RXC10.1: FTT-10A On RXC10.5: FT 5000       Baud rate     78 kBit/s	-		
Load current per triac       Max. 0.5 A         Total nominal load       Max. 9.5 VA         (with load at both       (e.g. 2 thermic valves, type STE72 per outputs simultaneously)         Internal fuse       2 A (both outputs together)         Control output YC1       Quantity         Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type         LonWORKs® bus       Interface type         Transceiver       On RXC10.1: FTT-10A         Baud rate       78 kBit/s	Triac ouptuts Y1, Y2	-	
Load current per triacMax. 0.5 ÅTotal nominal loadMax. 9.5 VA(with load at both(e.g. 2 thermic valves, type STE72 per outputs simultaneously)heating and cooling sequenceInternal fuse2 Å (both outputs together)Control output YC1Quantity1Nominal voltage rangeDC 0 10V OverrangeOverrange≥0.5 VResolution8 bits (50 mV) Output currentOutput currentMax. 1 mA Response timePortsInterface typeLONWORKS® busInterface typeLONWORKS® busInterface typeBaud rate78 kBit/s		Output voltage	-
Total nominal load (with load at both outputs simultaneously) Internal fuseMax. 9.5 VA 			
(with load at both outputs simultaneously) Internal fuse(e.g. 2 thermic valves, type STE72 per heating and cooling sequence 2 A (both outputs together)Control output YC1Quantity1 Nominal voltage range Overrange ResolutionDC 0 10V ≥0.5 V Resolution 0 utput current Max. 1 mA Response time>PortsInterface type TransceiverLonMARK®-compatible, electrically isolated On RXC10.1: FTT-10A On RXC10.5: FT 5000 Baud rateInterface type Reside Kit/s		•	
outputs simultaneously) Internal fuse       heating and cooling sequence 2 A (both outputs together)         Control output YC1       Quantity Nominal voltage range       1 DC 0 10V Overrange         ≥0.5 V       Resolution         Resolution       8 bits (50 mV) Output current         Output Simultaneously       Max. 1 mA         Resolution       100 ms         Ports       Interface type         LONWORKS® bus       Interface type         Transceiver       On RXC10.1: FTT-10A On RXC10.5: FT 5000         Baud rate       78 kBit/s		Total nominal load	
Internal fuse       2 A (both outputs together)         Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type         LONWORKS® bus       Interface type         Transceiver       On RXC10.1: FTT-10A         On RXC10.5: FT 5000       Baud rate		•	
Control output YC1       Quantity       1         Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type         LONWORKS® bus       Interface type         Transceiver       On RXC10.1: FTT-10A         Baud rate       78 kBit/s		outputs simultaneously)	<b>o o</b> .
Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type         LONWORKS® bus       Interface type         Transceiver       On RXC10.1: FTT-10A         On RXC10.5: FT 5000       Baud rate		Internal fuse	2 A (both outputs together)
Nominal voltage range       DC 0 10V         Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type         LONWORKS® bus       Interface type         Transceiver       On RXC10.1: FTT-10A         On RXC10.5: FT 5000       Baud rate	Control output YC1	Quantity	1
Overrange       ≥0.5 V         Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       LonWorks® bus         Interface type       LonMark®-compatible, electrically isolated         Transceiver       On RXC10.1: FTT-10A On RXC10.5: FT 5000         Baud rate       78 kBit/s	control output i o i	-	-
Resolution       8 bits (50 mV)         Output current       Max. 1 mA         Response time       100 ms         Ports       Interface type         LONWORKS® bus       Interface type         Transceiver       On RXC10.1: FTT-10A         On RXC10.5: FT 5000         Baud rate       78 kBit/s		0 0	
Output current Response time       Max. 1 mA         100 ms       100 ms         Ports       LonWorks® bus       Interface type       LonMark®-compatible, electrically isolated         Transceiver       On RXC10.1: FTT-10A On RXC10.5: FT 5000       On RXC10.5: FT 5000         Baud rate       78 kBit/s			
Response time       100 ms         Ports       LONWORKS® bus       Interface type       LONMARK®-compatible, electrically isolated         Transceiver       On RXC10.1: FTT-10A On RXC10.5: FT 5000       On RXC10.5: FT 5000         Baud rate       78 kBit/s			
Ports LONWORKS® bus Interface type LONMARK®-compatible, electrically isolated Transceiver On RXC10.1: FTT-10A On RXC10.5: FT 5000 Baud rate 78 kBit/s		-	
LONWORKS® bus Interface type LONMARK®-compatible, electrically isolated Transceiver On RXC10.1: FTT-10A On RXC10.5: FT 5000 Baud rate 78 kBit/s		· · · · · · · · · · · · · · · · · · ·	
Image: Strate of the second strate of the	Ports		
TransceiverOn RXC10.1: FTT-10AOn RXC10.5: FT 5000Baud rate78 kBit/s	LONWORKS® bus	Interface type	LONMARK®-compatible,
On RXC10.5: FT 5000 Baud rate 78 kBit/s			electrically isolated
Baud rate 78 kBit/s		Transceiver	On RXC10.1: FTT-10A
			On RXC10.5: FT 5000
Bus topology, bus termination See installation guide, CA110334		Baud rate	78 kBit/s
		Bus topology, bus termination	See installation guide, CA110334

Cable connections	Connection terminals Cable lengths Signal inputs D1, D2 Triac outputs Y1, Y2 LONWORKS® bus Cable type	Stranded or solid conductors $0.25 \dots 2.5 \text{ mm}^2$ or 2 x 1.5 mm <sup>2</sup> solid See installation guide, CA110334 Max. 100 m with diameters $\ge 0.6 \text{ mm}$ Max. 100m where A $\ge 1.5 \text{ mm}^2$ See installation guide, CA110334 See installation guide, CA110334
	Tool connecting cable	Max. 3 m
Housing protection standard	Protection standard to EN 60529	IP30
Protection class	Insulation protection class	
Ambient conditions	Operation Temperature Humidity Transport Temperature Humidity	Class 3K3 to IEC 60721-3-3 5 40 °C < 85 %rh Class 2K3 to IEC 60721-3-2 – 25 65 °C < 95 %rh
Standards and directives	<ul> <li>Product standard Automatic electronic controls for household and similar use</li> <li>Electromagnetic compatibility <ul> <li>Immunity (industrial &amp; residential)</li> <li>Emissions (residential)</li> </ul> </li> <li>C Compliance <ul> <li>Meets requirements of EMC directive</li> </ul> </li> <li>UL compliance <ul> <li>C-Tick conformity (EMC)</li> </ul> </li> </ul>	EN 60730-1 EN 60730-1 EN 60730-1 2004/108/EC UL316 AS/NZS 61000-6-3
Environmental compatibility	The product environmental declaration CA2E3830 contains data on RoHS com- pliance, materials composition, packaging, environmental benefit, disposal	ISO 14001 (Environment) ISO 9001 (Quality) 2002/95/EC (RoHS)
Dimensions	See dimension diagrams	
Color	Front plate	NCS S 0502-G ≈ RAL 9003 signal white
	Housing base and mounting plate	RAL 7035 light grey
Weight	Weight excluding packaging	0.16 kg

00109

	0	0109
G	D1	
G0	GND	
YC1	GND	
Y1	D2	
G	CLA	
Y2	CLB	
	G0 YC1 Y1 G	G D1 G0 GND YC1 GND Y1 D2 G CLA

### Signal inputs

D1	Signal input
GND	Signal ground
GND	Signal ground
D2	Signal input

### Analogue output

YC1	0 10 V output
G0	System neutral

#### Triac outputs

- G AC 24 V actuator supply
- Y2 AC 24 V, 0.5 A switching output

#### LONWORKS® bus

CLA	Data A
CLB	Data B

#### Power supply

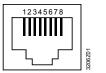
G	AC 24 V
G0	System neutral

STOP Note!

#### Local installation regulations must be observed.

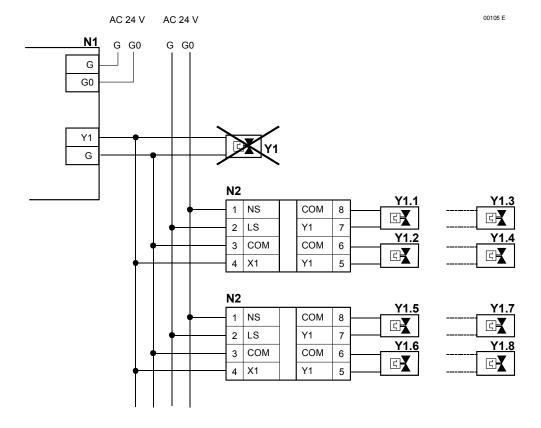
**Tool socket** 

Standard RJ45 tool socket for LONWORKS® devices.



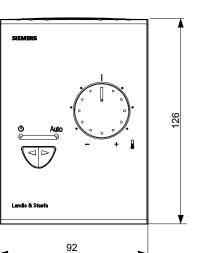
- 1 LONWORKS®, Data A (CLA)
- 2 LONWORKS®, Data B (CLB)
- 3 Not used
- 4 Not used
- 5 Not used
- 6 Not used
- 7 Not used
- 8 Not used

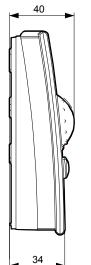
Connection of field devices, LonWorks® bus and supply voltage	AC 24 V GO O 10 V YC1 G G G CLA CLB LonWorks® Bus
	CLALONWORKS® data cable +CLBLONWORKS® data cable -D1, D2Volt-free contacts (window contact, occupancy detector etc.)GAC 24 V phaseG0, GNDSystem neutralY1, Y2AC 24 V triac outputYC10 10 V analogue output✓Twisted pair
Note	For information on compatible actuators for the RXC10 controller, refer to the relevant application description. See Applications library (V1: CA2A3810, V2:CA110300).
Parallel connection of several thermic actuators	Up to 2 thermic actuators can be connected directly to the room controller. In the case of more than 2 actuators a power amplifier is required. The same principle applies to outputs Y2. Note that the simultaneous load on outputs Y1 and Y2 must not exceed 9.5 VA. Power consumption at input X1 of the UA1T: 0.5 VA.
(STOP) Note!	Mixed operation: <b>Connecting thermic actuators to the controller as well as to the power amplifier is NOT allowed.</b> Differing voltage of the power supply of the controller and the supply of the power amplifier may cause big differences in the position of the valves.
Connection to controller	$M1 \qquad \qquad$

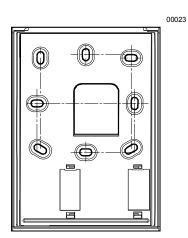


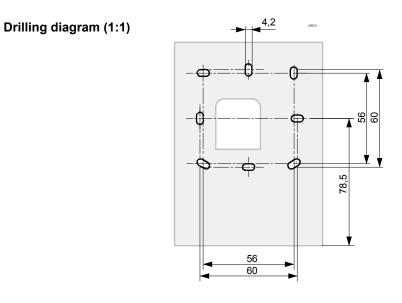
- N1 RXC10
- N2 UA1T (see data sheet CA2N3591)
- Y1 AC 24 V thermic valve actuator
- Y1.1 AC 24 V thermic valve actuator (max. 2 STA72E / STP72E actuators per Y1 output on the UA1T)
- Notes
- The UA1T requires an AC 24 V supply voltage
- The UA1T is not suitable for the connection of 3-position actuators.

All dimensions in mm









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Subject to change