

Description – Remote Control Interface

The **RCI10** Remote Control Interface allows remote control and monitoring of the system and its connected loads, reduces maintenance costs and provides plants with unrivalled transparency. It integrates the ControlPlex rack system into the network surroundings and thus into the centralised corporate management system. The RCI10 has access to all installed ESX300-S circuit protectors by means of an internal bus system and can query or buffer individual measuring data, status conditions and fault indications and forward them to the superordinate control unit or accept commands from the control unit for controlling purposes. Major applications are in centralised control units of decentralised system, e.g. in telecommunications engineering. The Remote Control Interface type RCI10 can be extended in operation (hot plug-and-play).



Features

- Voltage ratings: DC 20 V ... DC 75 V
- Integral web server
- Integral bus interface
- Terminal external, RJ45 connector

Further information

The current data sheet as well as other relevant documents are available on our website: www.e-t-a.de/d850

Benefits

- Reduced maintenance time on site due to manual remote control and surveillance of loads
- Remote power reset of the application if in error mode
- Enhanced system availability through parameter-dependent / automated switching of loads
- Ease of integration into an existing centralised management system thanks to SNMP or remote control and monitoring via web browser surface
- Early detection of errors by continuous recording of measuring data
- Energy data recording for each connected load

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Technical data (T_{amb} = 25 °C, U_B = DC 48 V)

Rated voltage U _B	DC 20 V...DC 75 V (Power-D-Box input voltage)
Dielectric strength	DC 100 V for 1 ms
Power consumption I ₀	typically 25 mA at DC 48 V operating voltage
Power consumption	typically 3 W (max. power consumption 5 W)
Interfaces and protocols	
Internal interface	Internal interface ELBUS/ power, 20-pole pcb connector
External connection	10 / 100 Mbit/s, 10 Base-T Ethernet, RJ45-connection sleeve for standard network cable of category Cat-5, type »Shielded Twisted Pair«
http / https (Hypertext Transfer Protocol)	Integral web server
Tested browsers:	Internet Explorer v9, Mozilla Firefox v28.8.1, Google Chrome v26.0
SNMP v1, v2c, v3 - Protocol	Protocol for integration into a management system
SNMP-MIB (Management Information Base)	file: CP-RCIxx_SNMP-MIB_Vxx.mib
SSH v2 (Secure Shell)	System configuration and safety settings
Recommended SSH v2 Terminal programme	LePutty 1997-2006 Simon Tatham
NTP (Network Time Protocol)	automatic time synchronisation via an NTP server
IP protocol (internet protocol)	IPv4 and IPv6 address formats are supported
DHCP-Server (Dynamic Host Config. Protocol)	is supported, allows automatic assignment of network parameters such as the IP address
System data	
Processor	ARM Cortex A5
L1 Cache	2 x 32 KByte
Operating system	Linux Kernel, OpenEmbedded
Volatile storage	256 Mbyte
Non-volatile storage	128 Kbyte + 8 Mbyte
Technical data:	
Design	rack without enclosure
Degree of protection	operating area IP20 (when rack is fully populated and SUB-D connectors are plugged in) terminal area IP00 DIN 40050
Mass	typically 100 g

Technical data (T_{amb} = 25 °C, U_B = DC 48 V)

Mounting position	vertical, cooling by means of convection
Status indication / momentary switch (function see table 4)	
Status LED	multicoloured (red, green, blue)
Reset momentary switch	system reset; reset IP address to factory settings
Environmental conditions	
Operating temperature	-20...+60 °C (without condensation, cf. EN 60204-1)
Ambient temperature	-20 °C...+60 °C without condensation see EN60204-1
Storage temperature	-30 °C ... +70 °C
Humidity	96 hours at 95% RH, 40 °C, to IEC 60068-2-78, climate class 3K3 to EN60721
Marking and approvals	
ESD	4 kV/air 8 kV
EMC requirements	to EN 61000-6-3 / EN 61000-6-2
Vibration resistance	3 g to IEC 60068-2-6,
Insulation co-ordination (IEC 60934)	1000 V (to EN 60934 – table 20 rated voltage > 50 V – ≤ 125 V
Marking	CE in accordance with EMC directive (EN 61000-6-3 & EN 61000-3-2)
Conformity	EN 60950-1 / UL 60950-1 compliant (when installed / in PDB)

Order numbering code

RCI	Remote Control Interface
10	standard, pluggable (front plate, without housing)
Internal interfaces	
0	with EL-BUS interface (standard)
Voltage range (supply)	
0	DC 20 V – DC 75 V
External interfaces	
0	Ethernet with RJ45 connection
Software protocols	
A	IPv4, IPv6, SNMP v1, v2c, v3, http, https, SSH v2
RCI 10 - 0 0 0 - A	ordering example

General data

Mounting position	vertical
Design	rack without enclosure
Front plate mounting	rack guidance with catch mechanism in the front plate
Operating temperature	-20...+60 °C (without condensation, cf. EN 60204-1)
Storage temperature	-30 ... +70 °C
Humidity	96 hrs / 95% RH/40°C to IEC 60068-2-78, test Cab climate class 3K3 to EN60721
Vibration resistance	3 g to IEC 60068-2-6,
Degree of protection	IP00 DIN 40050
EMC requirements	to EN 61000-6-3 / EN 61000-6-2
ESD	4 kV/air 8kV
Insulation co-ordination (IEC 60934)	1000 V (to EN 60934 – table 20 rated voltage > 50 V – ≤ 125 V
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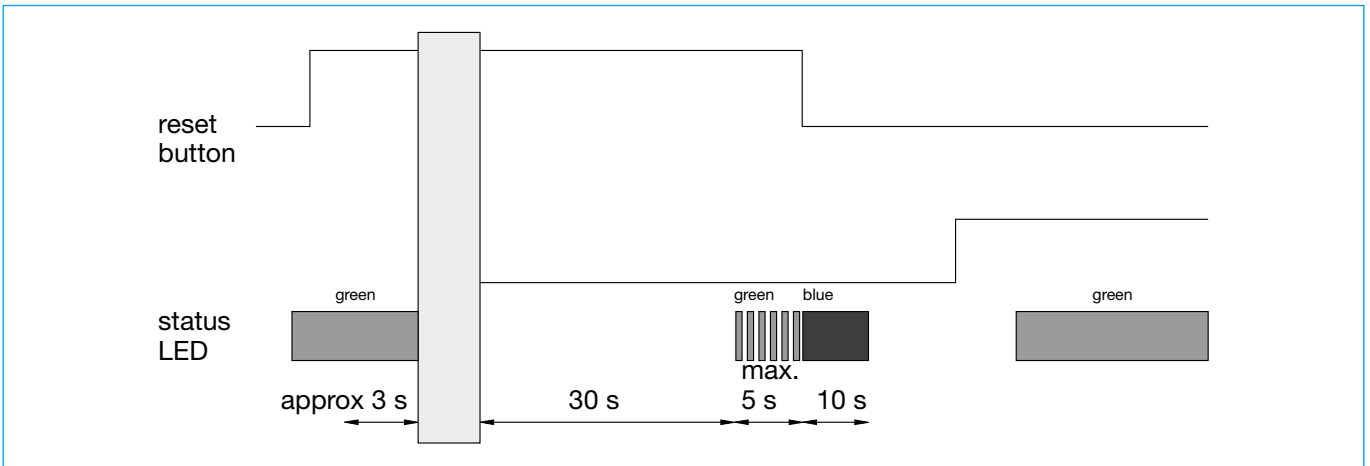
Pin assignment of 20-pole pcb connector

Shield	—	A1	B1	—	Shield
NC	—	A2	B2	—	NC
NC	—	A3	B3	—	NC
Supply (+)	—	A4	B4	—	Supply (+)
NC	—	A5	B5	—	NC
NC	—	A6	B6	—	NC
Supply (-)	—	A7	B7	—	Supply (-)
NC	—	A8	B8	—	Supply (-)
EL-BUS	—	A9	B9	—	Red_Sys
Supply (-)	—	A10	B10	—	Supply (-)

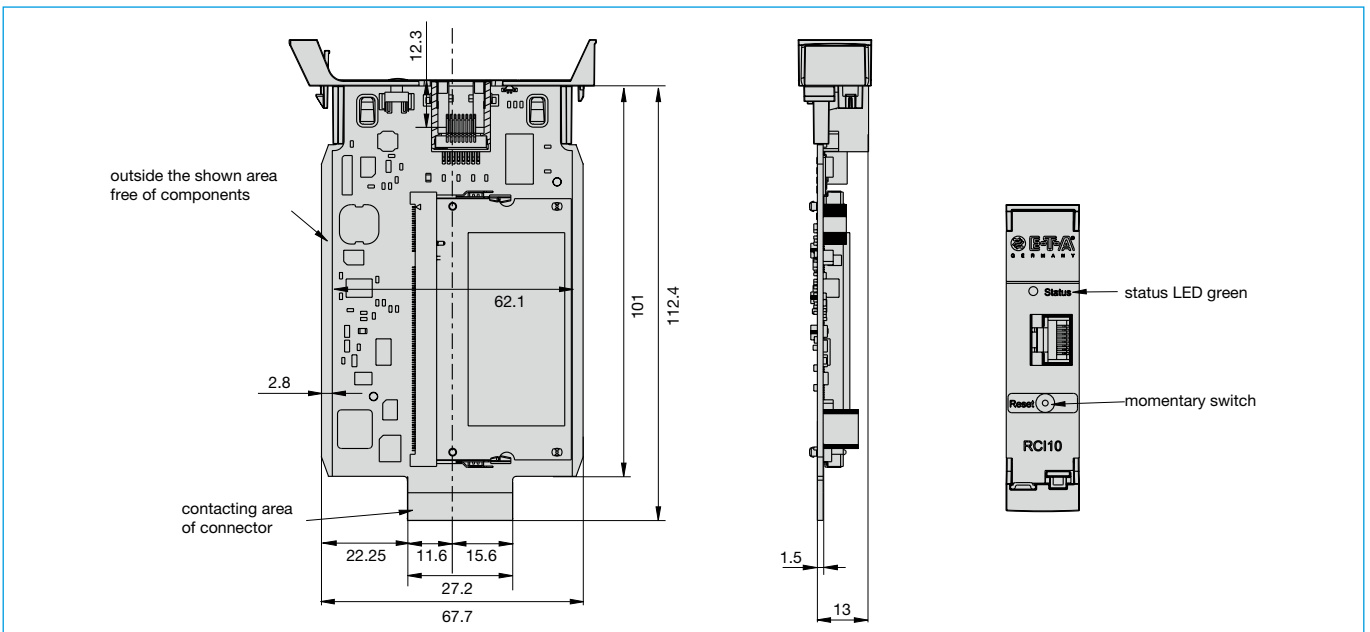
Table 4: status indication via LED and momentary switch function

Momentary switch	Status LED colour	Condition LED	Importance	Description
-	green	ON	normal operation	The green LED is lighted continuously when booting is completed and the RCI10 is operating faultlessly. Network connection can be established after another 10 sec.
pushed down for 35 sec	green	blinking	reset IP address to factory settings	By pushing the reset button for 35 seconds, the IP settings can be reset to factory settings. For visual control that the reset button has been pushed down long enough, the green LED will blink for 5 seconds (see fig. 1).
-	red	ON	internal failure RCI10	Serious internal fault in the RCI10 assembly. The sub-assembly is no longer operational. The RCI10 sub-assembly should be replaced.
-	red	ON	serious failure internal BUS (EL-BUS)	ELBus® fault. The communication with the circuit protector ESX300-S and the RCI10 is disrupted.
-	blue	ON	Ethernet link available	If a network connection is established in operation (layer 1), the LED will be lighted blue for some 10 seconds.
-	blue	ON	reset IP address to factory settings	The blue LED will be lighted for 10 seconds when the IP address has successfully been reset to factory settings, see fig. 1. Automatic booting will follow, this can last up to 60 seconds.
-	-	OFF	booting	The RCI10 sub-assembly is booting. Booting can take up to 60 seconds.
-	-	OFF	no supply voltage	No supply voltage or wrong polarity.
pushed down for 3 sec	-	OFF	warm boot	The system can be reset by pushing the reset button for 3 seconds (warm boot).
-	-	OFF	RCI10 sub-assembly defective	Serious internal fault in the RCI10 assembly. LED remains dark after booting (max. 60 sec). The RCI10 sub-assembly must be replaced.

fig. 1: Function »IP-reset« by pressing the reset button with LED



Dimensions



Front RCI10

Legal references and licences

<http://www.e-t-a.de/Lizenzen>

