

CR-216

16 ports E1 TAP

User manual

V1.2

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1. PURPOSE AND MAIN FEATURES

The CR-216 is a multi-channel E1 signal pickup for monitoring / diagnostics. The type of connected E1 signals is balanced twisted pairs with termination of 120 ohms. The device allows connection to 16 bidirectional E1 signals (rx + tx) and contains 32 high-impedance signal receivers, 32 matched transmitters with galvanic isolation and an output impedance of 120 ohms. The device is switched on parallel to the lines of the signal under study, does not violate its matching and amplitude-frequency characteristic. The type of E1 coding and signaling is irrelevant. When you turn off the power of the device, the passage of the investigated signal is guaranteed. The main characteristics of the device are shown in the table below.

Input signal type	Symmetrical twisted pair 120 ohm
Input waveform and amplitude	According to the standard ITU G703
Input impedance of receivers	12-17 KOhm
Number of input pairs	32
Galvanic isolation	1500V
E1 coding and signaling	Irrelevant
Connector type A, B, C	RJ45
Input signal pass-through on shutdown nutrition	Yes
Power consumption, no more	12 W
Input voltage (version .3)	220±20% VAC
Input voltage (version .4)	36..72 VDC
Weight	1 kg
Dimensions	485x110x44 mm (19" 1U case)

Part numbers:

CR-216.3	Powered by a built-in 220V source
CR-216.4	Powered by a built-in 48V source

2. CONNECTING THE DEVICE

The figure below shows the front and rear panels of the CR-216. Pairs of ports A1 / B1, A2 / B2... A8 / B8 are designed to connect a transit signal. Each pair of Ax / Bx connectors is pin-to-pin connected inside the device. For ease of installation, the transit line can be cut, both ends are crimped with connectors and connected to ports A and B. At the same time, the copper connection will remain, when the power supply of the tap is turned off, the passage of signals between A and B will not be disturbed.

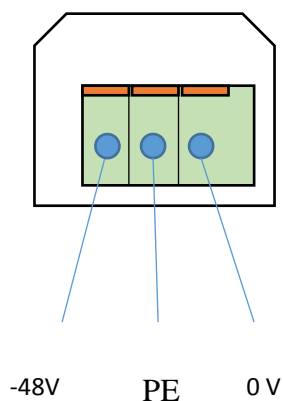
Output signals are connected to ports C1..C8. Receivers of diagnostic equipment should be connected to ports C.

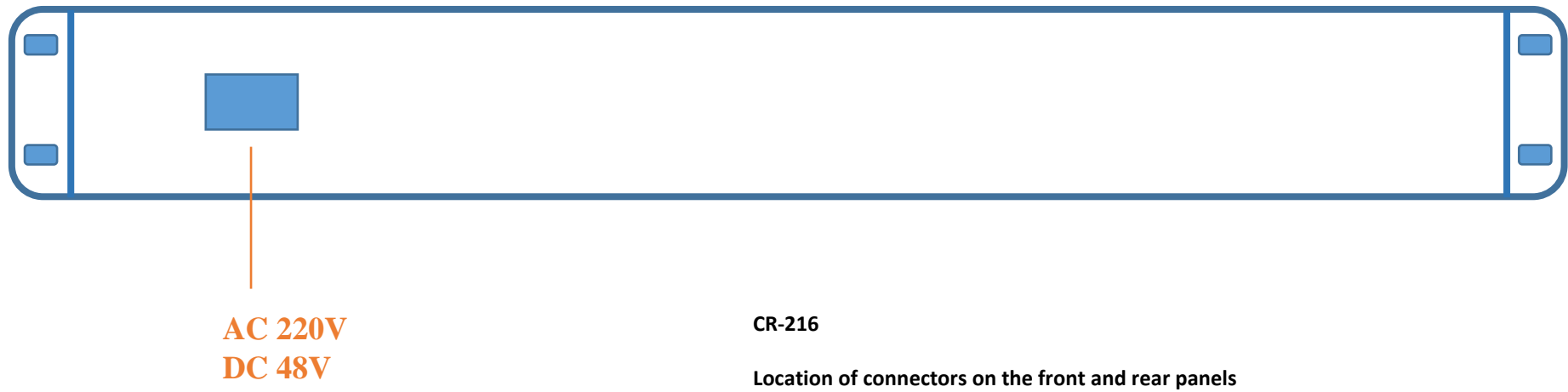
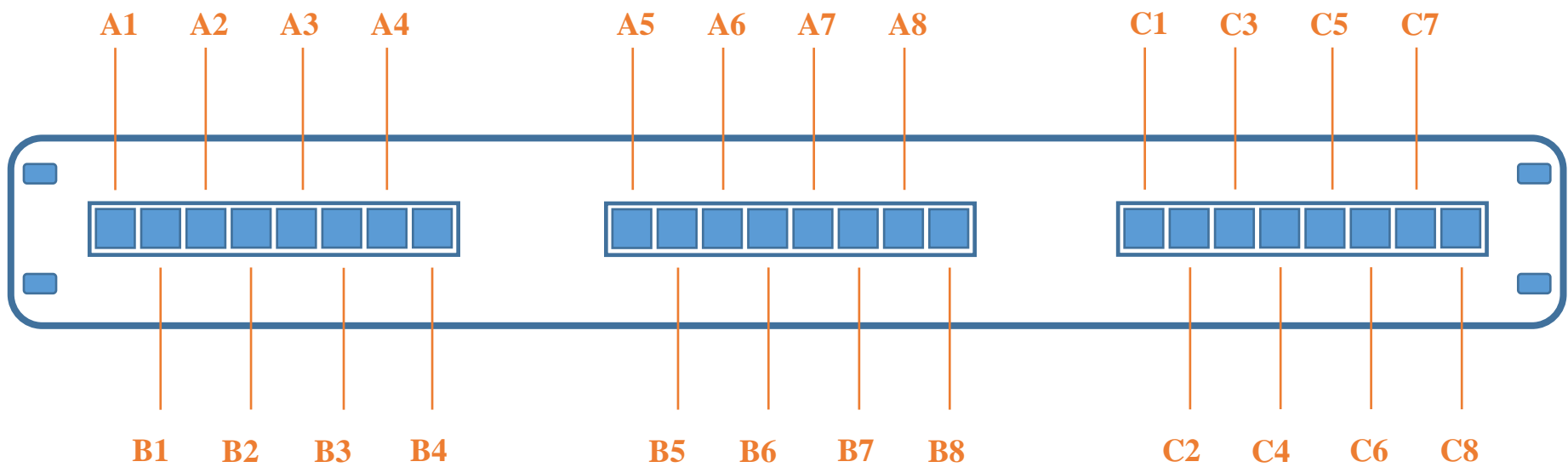
The pin assignments of connectors A, B and C are the same and are shown in the table .

Pin	Signal
1	Pair1 +
2	Pair1 -
3	Pair2 +
4	Pair3 +
5	Pair3 -
6	Pair2 -
7	Pair4 +
8	Pair4 -

In version .3, on the rear panel of the tap, there is an AC 220V power connector of the C14 type, power cord included.

In version .4, a terminal block with screw contacts is installed on the rear panel of the tap.





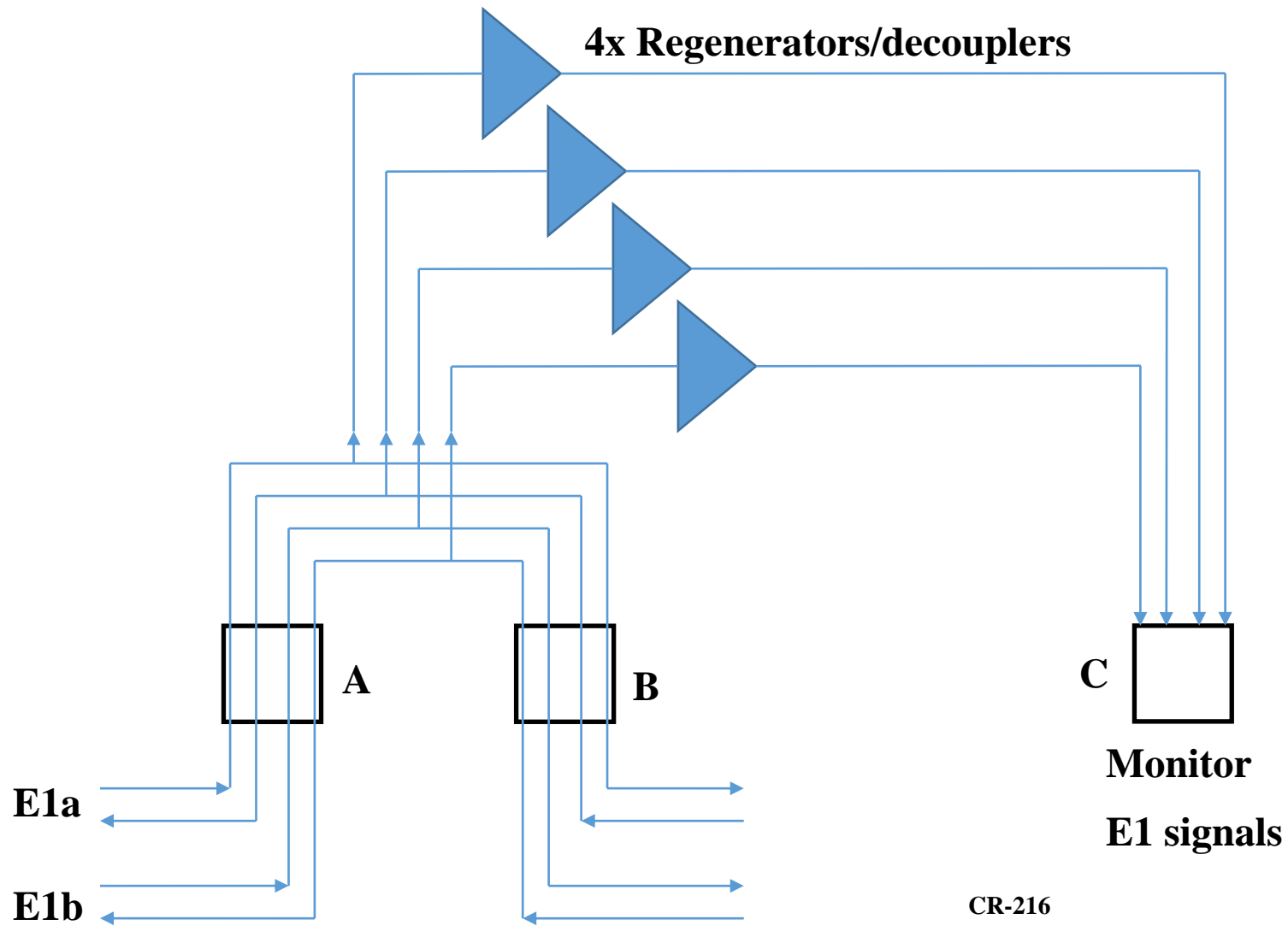
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Location of connectors on the front and rear panels

3. TAP INTERNALS

The figure below shows the operation of one group of ports A / B and C.

The pass-through signal passes unchanged between ports A and B. A high-impedance signal conditioning amplifier E1 is connected in parallel to each pair. The amplifier input is galvanically isolated from the transit signal. After amplification, the removed signal goes to the output transmitter with a matched output and through port C is sent to the twisted pair cable to the monitoring device.



4x Regenerators/decouplers

A

B

C

Monitor

E1 signals

E1a

E1b

CR-216

Signal flow inside the device

Версии документа:

1.0 –

1.1 – альтернативное питание

1.2 – 48V версия