RC-TRS-RX Operational Description

RC-TRS receiver (RC-TRS-RX) decodes messages sent by its coupled transmitter unit and actuates the corresponding functions. The functions can be actuated with simple on-off commands or with a proportional regulation.
A three-digits 7-segments display provides additional diagnostic information.
Several analog and digital inputs are available for monitoring the actuated machine's status.

Figure 1 shows the RC-TRS-RX unit.

Figure 1 – RC-TRS receiver unit.

SPECIFICATIONS

Housing material	Stainless steel
Weight	< 1 kg
Antenna	external / waterproof connection
Temperature range	-25°C ÷ +70°C
Power supply	8.5 ÷ 30 Vdc
Diagnostics	three-digits, 7-segments display
Analog inputs	3 (8 bit resolution, 0.5 VDC)
Power Outputs	14 x 5A or 12x5A and 2x PWM
PWM outputs	2 (0-1A)
Analog Outputs	6 (0-5V)

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OPERATIONAL DESCRIPTION

When the power supply is turned on, a short self-diagnosys cycle is performed and then the unit is ready for operation.
The RC-TRS-RX decodes only messages coming from its coupled RC-TRS transmitter: a security RF identifier (unique for each tx/rx pair) is stored in a non-volatile memory.

A front connector is available for connecting the coupled transmitter unit via a service cable. The service cable is used for charging the transmitter's batteries as well as to provide a secure backup communication channel (an RS-485 line) in case of highly disturbed environments.

First Time Operation

Before operating for the first time a receiver with its transmitter unit, the proportional trigger's acquisition procedure must be performed (see user's manual for details on the proportional trigger's acquisition procedure).

Normal Operation

- The receiver continously waits for messages coming from its coupled transmitter unit. Messages are decoded and the corresponding functions (on-off or proportional) are actuated.
- All messages are checked for correspondance of the unique RF identifier. Messages that fail this check are discarded.
- All messages have an error control field that is always checked. Errored messages are discarded.
- When no valid messages are received, the unit automatically turns all active functions off.
- Proportional functions must be activated with their associated on-off switch and then the proportional trigger can be actuated; functions that fail this sequence are not activated.
- Depending on customer's requirements the display can show the receiver's actual status as well as a variety of diagnostic information (see user's manual for details on the diagnostic information available).
- The function's parameters are adjustable via a calibration tool (see user's manual for details on how to set function's parameters using the calibration tool).