

Operational Description for Type R302 Model 154D receiving unit

1 Identification of the unit

Type	R302
Model	154D
Configuration	L01
Equipment	remote control receiving unit
Transmitting radio module	E16SRXUS1
Used frequency band	902 - 928 MHz
FCC Identifier	OQA-R302154D
Manufacturer	AUTEC srl Via Pomaroli, 65 I-36030 CALDOGNO (VI)

where:

TYPE: identifies type of unit (transmitting, receiving or transceiving), type of casing and used electronic modules.

MODEL: differentiates power supply, type of actuators and radio frequency band

CONFIGURATION: refers to the specific set of components and accessories of the unit

2 Difference between the units

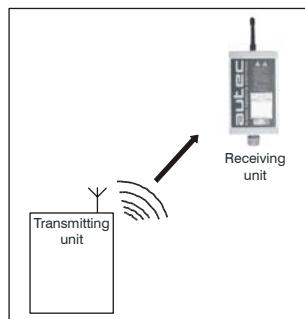
There are two Configurations which differ each other for the used antenna:

- Configuration L01: dedicated antenna
- Configuration L02: dedicated antenna with a cable 1 - 5 metres

3 Operational description

Industrial radio remote controls are used to command machines from a distance.

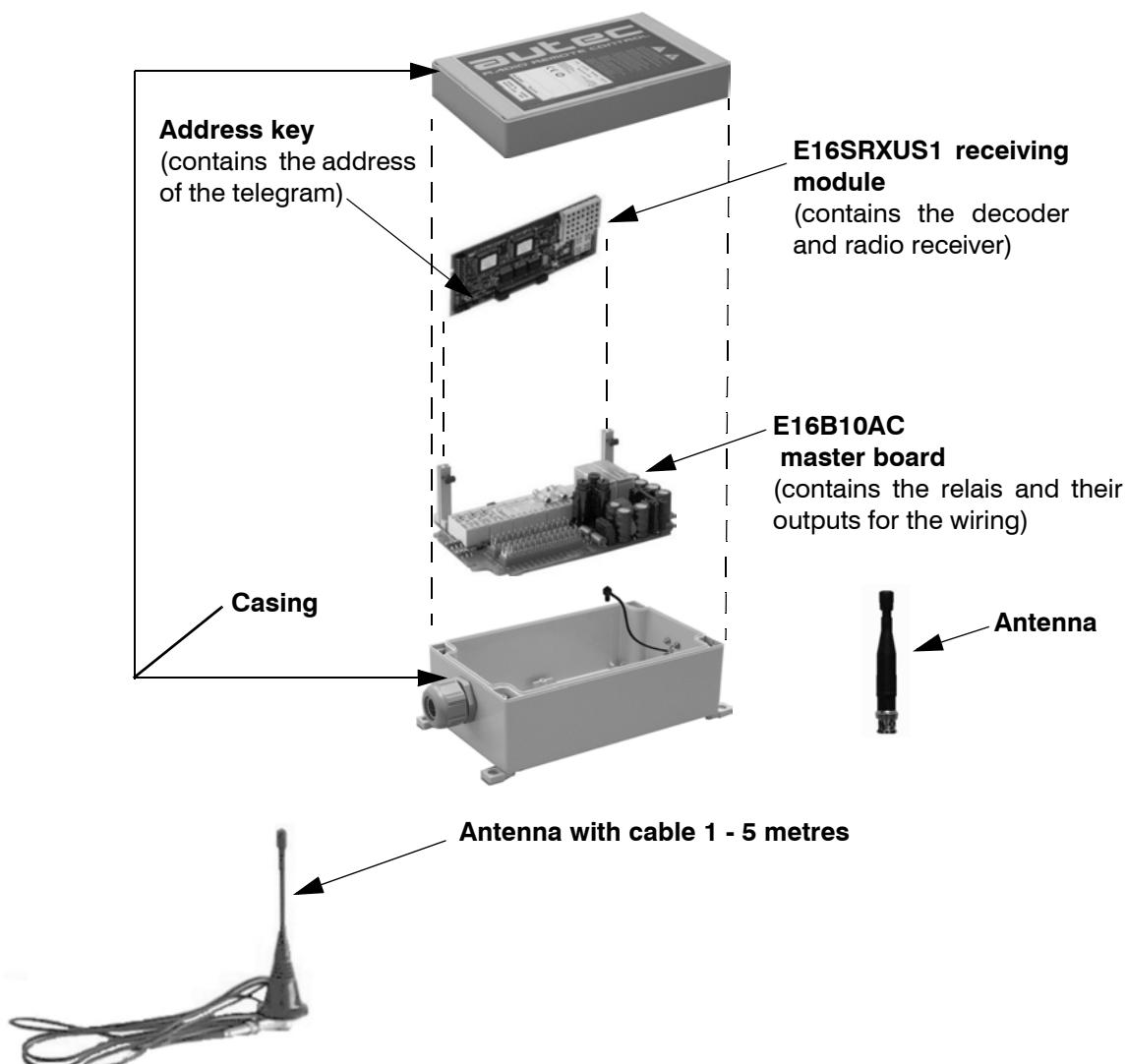
Each industrial radio remote control is made up of a portable transmitting unit, from which the user can remotely control the machine, and a receiving unit installed on board the machine itself.



The receiving unit contains E16SRXUS1. It is the radio receiving module.

A double conversion superheterodyne radio circuit demodulates the tuned carrier (32 different frequencies in the 902-928 MHz band, channel spacing 25 kHz) and so recovers the data telegram to be decoded by a following logic section. Decoding is performed with two-channel redundancy, so as to achieve protection against single faults; if both channels recognize a telegram containing the same address stored in the "address key" EEPROM, then commands encoded on the telegram are output to be used for relay driving. Relays are housed on E16B10AC master board, together with a suitable power supply section (*for details see relative block diagrams*).

Telegrams coming from a transmitter with address different from that stored in the "address key", as well as any other radio noise, will be discarded; the receiver will automatically bring the system to safe state (no command output) if no valid signal is received for more than 0.35 or 1 sec (user selectable).

4 Exploded view

5 Technical data E16SRXUS1 receiving radio module

Used frequency band	902 - 928 MHz
Type of modulation	2200 - 2600 Baud GFSK
Channel spacing	25 kHz
Sensitivity	-116 dBm (SINAD > 12 dB)
Type	superheterodyne (double conversion)
Duty cycle	up to 100 % (continuous duty), depends on user's need
Duplex direction	simplex
Antenna type	dedicated $\lambda/4$ monopole *
Data telegram	132 bit
Hamming distance	> 8
Probability of non-recognition of error	<10 exp-11

* the antenna can have a cable 1-5 metres (see exploded view).