

Operational Description for Type R102 Model 251D receiving unit

1 Identification of the unit

Type	R102
Model	251D
Configuration	QB7
Equipment	remote control receiving unit
Transmitting radio module	E16SRXUS1
Used frequency band	902 - 928 MHz
FCC Identifier	OQA-R102251D
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 some Configurations which differ each other for the programming key and/or the extension interface preset into the unit:

Configuration Q01:

- programming key E16RIQ01

Configuration Q02:

- programming key E16RIQ02

Configuration Q03:

- programming key E16RIQ03

Configuration Q04:

- programming key E16RIQ04

Configuration QB4:

- programming key E16RIQ04 and extension interface (card) E16RIR4A mounted on extension unit

Configuration QC4:

- programming key E16RIQ04 and extension interface (card) E16RIR2A mounted on extension unit

Configuration Q05:

- programming key E16RIQ05

Configuration Q06:

- programming key E16RIQ06

Configuration QA6:

- programming key E16RIQ06 and extension interface (card) E16RIV1A mounted on extension unit

Configuration QB6:

- programming key E16RIQ06 and extension interface (card) E16RIR4A mounted on extension unit

Configuration QD6:

- programming key E16RIQ06 and extension interface (card) E16RIREA mounted on extension unit

Configuration QE6:

- programming key E16RIQ06 and extension interface (card) E16RIREB mounted on extension unit

Configuration QF6:

- programming key E16RIQ06 and extension interface (card) E16RIV15 mounted on extension unit

Configuration Q07:

- programming key E16RIQ07

Configuration QB7:

- programming key E16RIQ07 and extension interface (card) E16RIR4A mounted on extension unit

Configuration Q08:

- programming key E16RIQ08

Configuration QA8:

- programming key E16RIQ08 and extension interface (card) E16RIV1A mounted on extension unit

Configuration QB8:

- programming key E16RIQ08 and extension interface (card) E16RIR4A mounted on extension unit

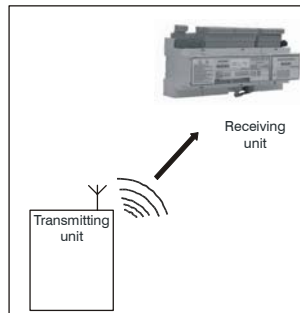
Configuration Q09:

- programming key E16RIQ09

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.



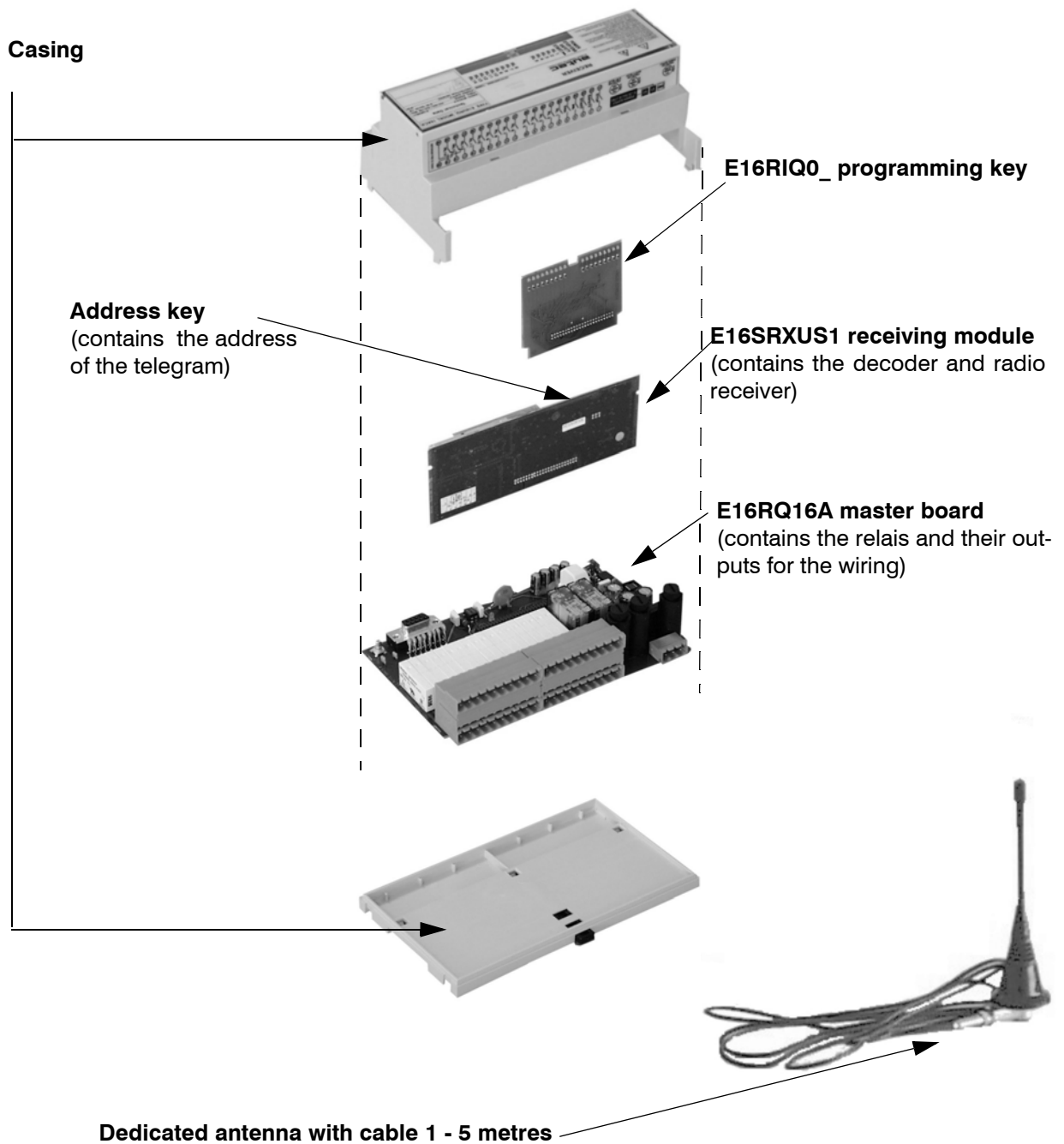
The receiving unit contains E16SRXUS1. It is the radio receiving module.

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 E16RQ16A master board, together with a suitable power supply section (*for details see relative block diagrams*).

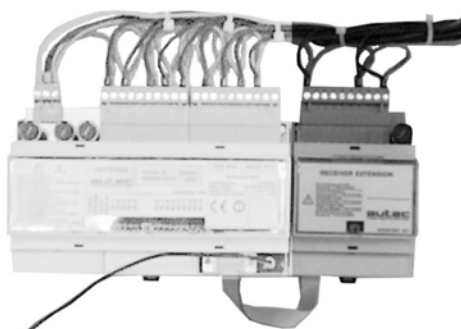
Telegrams coming from a transmitter with address different from that stored in the "address key", as well as any other radio noise, will be discarded; the receiver will automatically bring the system to safe state (no command output) if no valid signal is received for more than 0.35 or 1 sec (user selectable).

4 Exploded view

Casing



Also possible and available is a (receiver) extension unit:



Inside the (receiver) extension unit one of the E16RI__ interfaces may be mounted (see the different Configurations)

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	superheterodine (double conversion)
Duty cycle	up to 100 % (continuous duty), depends on user's need
Duplex direction	simplex
Antenna type	$\lambda/4$ monopole antenna with cable 1-5 metres
Data telegram	132 bit
Hamming distance	> 8
Probability of non-recognition of error	<10 exp-11