

# Operational Description for Type TG02 Model 202D transmitting unit

## 1 Identification of the unit

Type	TG02
Model	202D
Configuration	K02
Equipment	<b>remote control transmitting unit</b>
Trasmitting radio module	<b>E16STXUS1</b>
Used frequency band	<b>902 - 928 MHz</b>
Trade name	<b>KTC</b>
FCC Identifier	<b>OQA-TG02202D</b>
Manufacturer	<b>AUTEC srl Via Pomaroli, 65 I-36030 CALDOGNO (VI)</b>

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: refersto the specific set of components and accessories of the unit

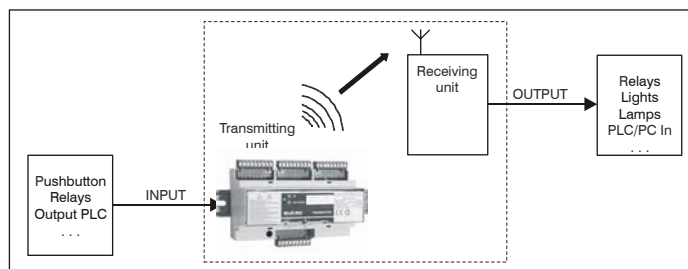
TRADE NAME: commercial reference

## 2 Operational description

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

A KTC system is used to activated commands by remote control (to start up equipment for example) or to turn on signals (i.e.: telemetry).

The KTC transmitting unit is without actuator and it must be installed onto DIN EN 50022 guides.



The transmitting unit is installed where the commands are activated (INPUT) by means of actuators (pushbutton, relays, output PLC). The receiving is installed where the commands or signals (OUPTPUT) are controlled (relays, lights, lamps etc.).

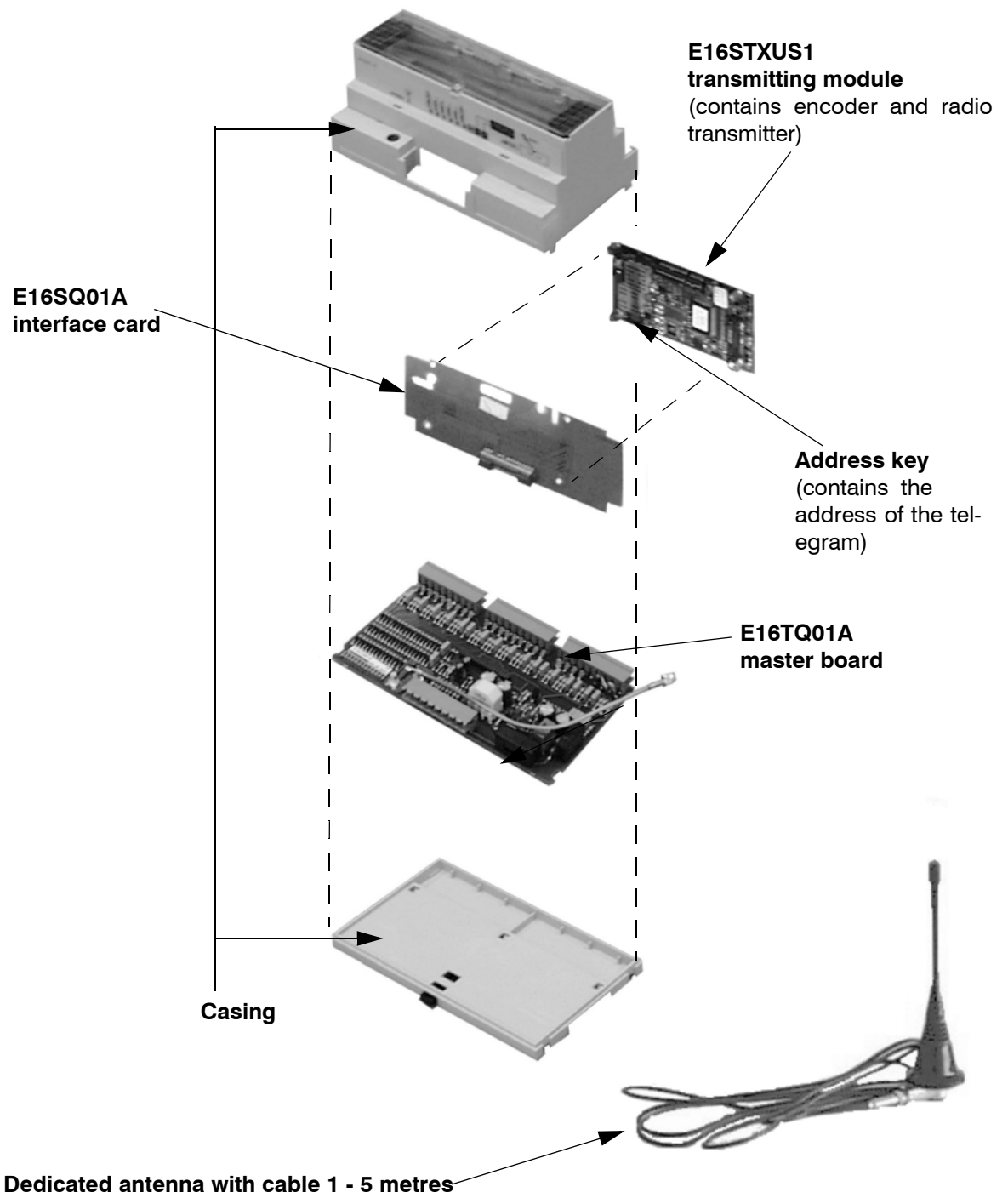
The KTC contains E16STXUS1. It is the radio transmitting module.

A logic section collects commands coming from various actuators (present in the E16TQ01A master board) and combines them with an address code stored in an EEPROM memory ("address Key"); a serial data telegram at 2200-2600 baud is so obtained. After a Gaussian spectrum shaping filter, the telegram is frequency modulated on a carrier generated by a PLL synthesizer and then transmitted over a 25kHz channel in the 902-828 MHz band; 32 different frequencies may be chosen, so as to allow coexistence of multiple units on the same location (*for details see relative block diagrams*).

Transmission is continuous (100% duty cycle) even with no command activated, since the receiver is expected to monitor continuously the presence of a valid radio signal.

A receiving unit will decode only messages coming from a transmitter with the same address code. This excludes the possibility of an interference activating any function unwantedly.

**3 Exploded view**



#### 4 Technical data E16STXUS1 trasmitting radio module

Used frequency band	<b>902 - 928 MHz</b>
Type of modulation	<b>2200 - 2600 Baud GFSK</b>
Channel spacing	<b>25 kHz</b>
Designation of emission (ITU code)	<b>16K5F1D</b>
Strenght field	<b>see relative Test Report</b>
Duty cycle	<b>up to 100 % (continuous duty), depends on user's need</b>
Duplex direction	<b>simplex</b>
Antenna type	<b><math>\lambda/4</math> monopole antenna with cable 1-5 metres</b>
Data telegram	<b>132 bit</b>
Hamming distance	<b>&gt; 8</b>
Probability of non-recognition of error	<b>&lt;10 exp-11</b>