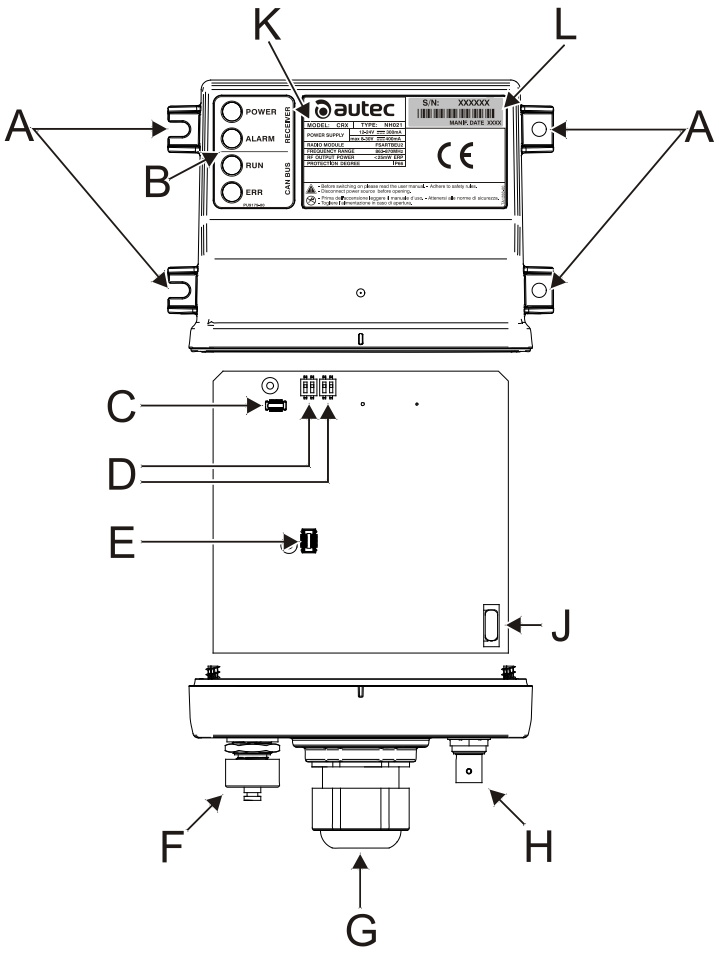
# DYNAMIC SERIES

## Part D: CRX receiving unit

## INDEX

**1 Description ..... 2**
1.1 Safety functions of the CRX receiving unit ..... 3
**2 Technical data ..... 3**
**3 Technical data sheet ..... 3**
**4 Plates ..... 4**
**5 Light signals ..... 4**
5.1 POWER LED (green) ..... 4
5.2 ALARM LED (red) ..... 5
5.3 RUN LED (green) ..... 5
5.4 ERR LED (red) ..... 5
**6 Malfunction signalled by the receiving unit ..... 6**

# 1 Description




| | |
|---|---|
| **A** | mounting holes |
| **B** | LED |
| **C** | IDK connector (for address key) |
| **D** | DIP switches |
| **E** | DTK connector (for memory board) |

| | |
|---|---|
| **F** | Connector for cable control |
| **G** | Plug or cable gland |
| **H** | BNC connector for external antenna kit (optional) |
| **J** | Fuse F1 |
| **K** | Technical data plate |
| **L** | Radio remote control identification plate |

The receiving unit is interfaced with the machine through the outputs and their wiring and/or through a CAN network (of which it is a slave node).
The CAN communication of the CRX receiving unit can be enabled or disabled. The machine manufacturer or who install the radio remote control on the machine determines whether the CAN communication is enabled or disabled.
The STOP and SAFETY outputs are some of the receiving unit's outputs.

### 1.1 Safety functions of the CRX receiving unit

The SO1 and SO2 outputs may be either STOP (stop function) or SAFETY outputs (UMFS function), according to the configuration of the receiving unit (see technical data sheet).
If they are configured as STOP outputs the UMFS safety function is not available.
If they are configured as SAFETY outputs both the UMFS and stop safety functions are available.

## 2 Technical data

Power supply ..... 8-30V⎓
Antenna ..... internal or dedicated
Rated current of SO_1 and SO_2 outputs ..... 2A (30V⎓)
Rated current of digital outputs ..... 2A (30V⎓)
Protection of power supply (resettable fuse) ..... 1.3A
Protection of outputs (fuse F1) ..... 10A (32V⎓, autofuse)
Housing material ..... PA6 (20% fg)
Protection degree ..... IP66 (NEMA 4)
Dimensions ..... 128x143x63mm (5.04x5.63x2.48In)
Weight ..... 0.65kg (1.43Lb)

## 3 Technical data sheet

The technical data sheet contains the wiring diagram showing the connection between the receiving unit and the machine. It also contains the transmitting unit configuration and shows the matching between commands sent and machine functions/movements.
Each technical data sheet must be filled in, checked and signed by the installer, who is responsible for a correct wiring.
A technical data sheet must always be kept toghether with this manual (always keep a copy of the technical data sheet when it is used for administrative purposes).

| | |
|---|---|
| ⚠ WARNING | **The wiring of the receiving unit outputs must always reflect the wiring indicated in the technical data sheet.** |

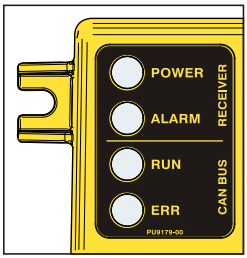
# 4 Plates

The receiving unit has the following plates:

| Plate | Position | Content |
|---|---|---|
| **radio remote control identification plate** | On the casing of the receiving unit | Radio remote control serial number (S/N), bar code and manufacturing year. |
| **technical data plate** | On the casing of the receiving unit | MODEL, TYPE and main receiving unit technical data, marking and possible radio remote control marks. |

# 5 Light signals

The receiving unit CRX has four LEDs:
- POWER is green
- ALARM is red
- RUN is green
- ERR is red




## 5.1 POWER LED (green)

The POWER LED indicates the status of the receiving unit and of the radio link.

| The POWER LED... | Meaning |
|---|---|
| **...is off** | The receiving unit is not powered. |
| **...is on** | The receiving unit is powered and radio link is missing. |
| **... blinks** | The receiving unit is powered and radio link has been established. |

## 5.2 ALARM LED (red)

The ALARM LED warns about anomalies in the receiving unit.

| The ALARM LED... | Meaning |
|---|---|
| **...is off** | The receiving unit works correctly. |
| **... blinks once** | Error on the SO1 and SO2 outputs when configured as STOP outputs. |
| **... blinks twice** | Error on the SO1 and SO2 outputs when configured as SAFETY outputs. |
| **... blinks three times** | Error on the outputs corresponding to direction commands. |
| **... is on** | Configuration error on the SO1 and SO2 outputs (see paragraph 1.1). |

## 5.3 RUN LED (green)

The RUN LED indicates the status of the communication between the receiving unit and the CAN network Master node.

| The RUN LED... | Meaning |
|---|---|
| **...is off** | The CAN communication is not active. |
| **... blinks** | The receiving unit does not send commands in the CAN network. |
| **...is on** | The receiving unit is working correctly as a node in the CAN network. |

RUN LED signals reflect the guidelines of the CANopen® standard, CiA recommendation 303-3.

## 5.4 ERR LED (red)

The ERR LED indicates the status of the CAN communication.

| The ERR LED... | Meaning |
|---|---|
| **...is off** | The CAN communication is working correctly. |
| **... blinks** | The CAN communication does not work correctly. |
| **...is on** | No CAN communication. |

ERR LED signals reflect the guidelines of the CANopen® standard, CiA recommendation 303-3.

# 6 Malfunction signalled by the receiving unit

Use the light signals on the receiving unit to identify the radio remote control malfunction. If the problem persists after the suggested solution has been carried out, contact the support service of the machine manufacturer.

| Signals | Possible reason | Solutions |
|---|---|---|
| **The POWER LED is off.** | The receiving unit is not powered. | Disconnect the power supply and restore it after 5 minutes to make sure that a restorable thermal fuse integrated in the receiving unit has not been activated. Correctly plug in the connecting plug and power on the receiving unit. |
| **The POWER LED is on.** | No radio link. | Bring the transmitting unit closer to the receiving unit. |
| **The ALARM LED blinks once.** | Error on the SO1 and SO2 outputs when configured as STOP outputs. | Make sure that fuse F1 is intact. Correctly plug in the connecting plug. Make sure that the STOP outputs are wired correctly. |
| **The ALARM LED blinks twice.** | Error on the SO1 and SO2 outputs when configured as SAFETY outputs. | Make sure that fuse F1 is intact. Correctly plug in the connecting plug. Make sure that the SAFETY outputs are wired correctly. |
| **The ALARM LED blinks three times.** | Error on the outputs corresponding to direction commands. | Contact the support service of the machine manufacturer. Make sure that the outputs of direction commands are wired correctly. |
| **The ALARM LED is on.** | Configuration error on the SO1 and SO2 outputs. | Make sure that the DIP switches are set as on the technical data sheet. If this signal persists, contact the support service of the machine manufacturer. |
| **The RUN LED blinks.** | The receiving unit does not send commands in the CAN network. | Contact the support service of the machine manufacturer. |
| **The ERR LED blinks.** | CAN communication error. | Contact the support service of the machine manufacturer. |