AIR

Radiocontrols for industrial lifting & automation

autec®

AIR Series

Autec's AIR Series consists of both pushbutton and joystick transmitting units and their accompanying receivers. The systems are suitable for industrial lifting and automation applications.

Strengths

- Automatic frequency search at start-up
- Dual-Band Radio (434 MHz & 915 MHz)
- STOP function classification up to PL d (EN ISO 13849-1)
- System configuration through navigation menu or PC software
- Data logger for recording of radio control operations
- CANopen, Profibus and serial interfaces for data control and communication

Safety

Autec designs and produces industrial remote controls with a level of safety that meets even the strictest of standards. The most important aspects of the remote control (functional, electrical, environmental, radio) reflect state-of-the-art technology for both control and communication. The STOP function of AIR Series models has been certified by TÜV Rheinland as compliant up to PL d according to EN ISO 13849-1 and to SIL 2 according to EN IEC 62061. Radio frequency communication is made through a certified and proprietary Autec system which is suitable for safety-critical applications. Each remote system uses its own unique code which cannot be reproduced.

Reliability

All electronic and mechanical parts are designed, manufactured and tested to withstand heavy use in adverse conditions: temperature extremes, shock & vibrations, substances such as oils, paints and thinners; even electromagnetic disturbance, dust and water. The AIR Series features casings with IP65 protection.
100% of the radio controls produced are subject to functional testing with specific equipment that ensures proper construction of each part that goes into an Autec system. An effective traceability system allows us to precisely identify the components and activities carried out through the production process to ensure the highest levels of safety and reliability.

Flexibility

Perhaps the greatest strength of the AIR Series is the fact that it is such a flexible line. Depending on the specific demands of a system, one can "Mix & Match" different models of the line's receivers and transmitters. Interfacing between units has never been easier. The AIR series remote controls were made to accompany any of the receivers in the line. Of course some receivers have extra card slots for greater configurability, or extra inputs for Data Feedback, where others may not need as much to handle all the functions of a specific machine. CAN communication, AC or DC power, joystick vs. pushbutton...the different options and configurations are virtually unlimited; but often such customer specifications carry a "one-size-fits-all" approach in terms of a receiver/transmitter combination. Usually, the more specific your request, the "bigger" a system you need, and that can be costly. By all of our remotes fitting any of the different types of receivers, you can always get what you want , so you aren't paying for what you don't need.

A8, A6, A4 Handhelds

The A8, A6 & A4 multi-function pushbutton transmitters (named according to the number of pushbutton functions) are light and compact solutions for lifting and automation. They are robust and durable, resistant to drops from 1.5 meters and have navigation menus to optimize functionality and performance according to the demands of the application. An internal lithium ion battery comes standard. "ID internal tx memory" holds the unique address of the radio control, which is not reproducible, and information that define the operating mode.

A4	**A6**	**A8**

Main Features

- STOP function classification up to PL d (EN ISO 13849-1) complies with EN ISO 13849-1
- Dual-Band Technology (434 MHz / 915 MHz)
- Automatic frequency search at start-up
- Suitable for Multiple Systems
- Internal Li-Ion Battery without memory effect
- Extremely light and durable transmitter (fall tests from 1.5 meters)
- Multi-function commands (latching, momentary, switch "1, 1+2, 2";" 1/2")
- Work area 75-100 meters
- 4 data feedback LEDs to display machine status
- Browsing menus for optimisation of machine functions and performance
- Data logger to record radio remote control operations
- PIN start-up: prevents unauthorized use
- ID internal tx memory
- Can be used while charging
- CAN Communication and serial ports

Accessories

- Docking station for battery recharging
- Shoulder strap with cover

Options

- Charger Plug
- Nest
- USB adapter (with EU plug)

Docking Station	**Charger Plug**	**Nest**	**Shoulder Strap with Cover**

Joystick Transmitting Units

AIR Series joystick versions are available in three different models: AJS, AJR and AJM. It is possible to have anywhere from 1 to 4 digital or analog joystick command functions. The standard NiMH battery is external and extractable for easy charging or replacement; display versions come with Li-Ion batteries.

Thanks to the user identification function through the extractable Key ID 0-1, it's possible to create individualized access for each user in order to avoid unauthorized use. Key ID 0-1 holds the unique address of the radio control which is not reproducible along with the information that define the operating mode.

AJS

AJR

AJM

Main Features

- STOP function classification up to PL d (EN ISO 13849-1) complies with EN ISO 13849-1
- Dual-Band Technology (434 MHz / 915 MHz)
- Automatic frequency search at start-up
- Suitable for Multiple Systems
- Extractable external battery (NiMH or Li-Ion)
- Extactable Key ID 0-1
- Work area up to 100 meters
- Customizable adhesive panel
- Up to 42 digital commands
- Up to 37 digital and 3 analog commands (including directional)
- Up to 28 digital and 6 analog commands (including directional)
- Visualization of machine status with either 4 or 16 LED lights
- AJS: 1 to 3 four-direction joysticks (Cross), up to 7 actuators plus START & STOP
- AJR: up to 3 four-direction joysticks with many actuators, depending on configuration
- AJM: up to 4 four-direction joysticks with many actuators, depending on configuration
- Data logger for recording of remote control operations

Accessories

- Shoulder strap
- Belt

Options

- Cable Control
- Zero-G Sensor
- Aluminum Panel (for more difficult working environments)
- IR Sensor
- External Buzzer
- 1.54" Display (OLED)
- 2.7" Display (OLED or transflective)
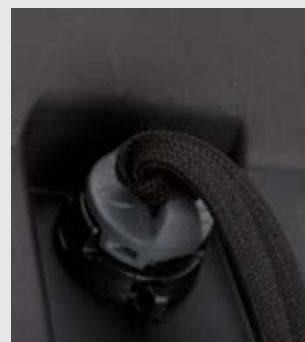- Extractable mechanical key (if Key ID 0-1 is not present)

Actuators

- Potentiometer
- Rotative switch
- Selector lever
- "Pull-up" selector switch
- Side button

Shoulder Strap

Belt

Key ID 0-1

Cable Control

LK NEO

The LK NEO transmitting unit was created and developed by Autec to give users a product with a modern, functional and optimized design. It was conceived and designed to provide a large set of functionalities available through a choice of actuators and configurations in a weight-balanced and highly ergonomic handset. LK NEO is available with 6, 8, 10 and 12 2-step pushbuttons. In addition, there are 2 other versions (6 or 10 buttons) with a customizable color display.

| LK NEO 6 | LK NEO 6 DF | LK NEO 8 | LK NEO 10 | LK NEO 10 DF | LK NEO 12 |

Main Features

- STOP function classification up to PL d (EN ISO 13849-1) complies with EN ISO 13849-1
- Dual-Band Technology (434 MHz / 915 MHz)
- Automatic frequency search at start-up
- Suitable for Multiple Systems
- Up to 12 pushbuttons
- Highly customizable with many options
- Easily-extractable NiMH or Li-Ion battery with charger
- Operating range up to 100 meters
- Customizable labeling
- Data logger for recording of remote control operations

Accessories

- Shoulder strap with cover

Options

- Key ID 0-1
- Extractable mechanical key (if Key ID 0-1 is not present)
- 2/3 position switch
- Rotative switch
- Potentiometer
- IR Sensor
- Zero-G Sensor
- Enabling Switch
- 1.8" color display (with 6 or 10-button versions)
- External Buzzer
- Vibration alarm (only for display version)

Shoulder Strap with Cover

Key ID 0-1

Enabling Switch

Potentiometer

SIDEKICK

The SIDEKICK transmitting unit is safe, reliable and compact. It was conceived by Autec for applications with a limited number of actuators. The unit has bi-directional radio with an extended working range. SIDEKICK is very waist-portable thanks to an ergonomic design, extremely reduced weight and an inclined control panel. It's configurable with selector levers, a rotary switch, potentiometer or a side button. It has a STOP function, classified up to PL d, which complies with EN ISO 13849-1.

SK4

Main Features

- STOP function classification up to PL d (EN ISO 13849-1) complies with EN ISO 13849-1
- Dual-Band Technology (434 MHz / 915 MHz)
- Automatic frequency search at start-up
- Internal and easily-replaceable Li-Ion battery
- Motion Sensor that intervenes in case of impact, fall or mal-inclination of the transmitting unit
- 4 data feedback LEDs to display machine status
- Data logger for recording of remote control operations
- PIN start-up: prevents unauthorized use
- CAN communication and serial ports

Accessories

- Belt
- Battery recharge: cable with USB connector & AC power supply or cigar jack

Options

- Pre-disposition actuator for emergency calls and intermittent brake for forestry applications
- Can be used while charging

Actuators

- Potentiometer
- Rotative switch
- Selector lever
- "Pull-up" selector switch
- Multi-purpose button

Cable with USB Connector


AC Power Supply with USB Input

Cigar Jack with USB Input

Belt

Display

Thanks to bi-directional communication which is always active, information regarding the status of the machine can easily be sent from the receiver to the transmitting unit and displayed on 4 or 16 LEDs or even a high-efficiency display for joystick remote controls. The AJS comes with a 1.54" display, while the AJR and AJM have 2.7" displays, with technologies optimized according to the desired location of use, whether indoors (OLED) or outdoors (transflective). Recently, we have also introduced a new 1.8" color display for the LK NEO. In all cases, messages can appear in the form of icons, descriptions or measures, depending on user preference.
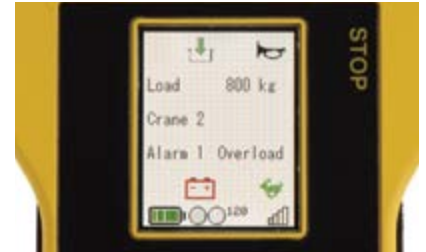
1.54" Display

- Available on the OLED monochrome version
- 128 x 64 pixels
- Can be used with the AJS transmitting unit
- Customizable reporting and icons

2.7" Display

- Available on the OLED version (indoors) and transflective monochrome (outdoors)
- 128 x 64 pixels
- Can be used with AJR and AJM
- Customizable reporting and icons
- 16 LEDs

New 1.8" Color Display for LK NEO

- 16 colors available
- 128 X 160 pixels
- Available on the 6 & 10-pushbutton versions
- Customizable reporting and icons
- Sunreadable: can be used indoors or outdoors

Batteries & Chargers

MBM06MH Battery for joystick transmitting units

- NiMH
- 7.2 V
- 750 mAh
- 5.4 Wh

MHM03 Battery for LK NEO

- NiMH
- 3.6 V
- 500 mAh
- 1.8 Wh

LPM02 Battery for joystick transmitting units

- Li-Ion
- 7.4 V
- 1400 mAh
- 10.36 Wh

LPM01 Battery for LK NEO

- Li-Ion
- 3.7 V
- 1300 mAh
- 4.81 Wh

Receiving Units

HACRP8

AC-powered up to 400 VAC with 7 programmable relays + START & STOP. Dedicated output for the enabling of commands. Integrated signal lights. Horn signal also an available option. Internal antenna comes standard.

MVRCAN

AC/DC power. I/O serial CANopen 2.0. Has 4 programmable relays + STOP. External antenna comes standard.

ACRS13-G/L

AC power with 12 programmable relays + START/ STOP with either internal or optional external antenna. The ACRS13-G receiver is equipped with a replaceable power module and 4 inputs for Data Feedback, while the ACRS13-L is equipped with a fixed integrated power supply circuit.

DCRS13

DC power. With 12 programmable relays + START / STOP and with an internal or optional external antenna. Unit includes 4 inputs for Data Feedback.

ACRM15

AC power. With 14 programmable relays + START and STOP, internal antenna standard or optional external antenna, 4 inputs for Data Feedback.
2 expansion slots are available for programmable relay boards, voltage/current analog output boards, digital and/ or analog input boards, variable resisistive output boards, sync boards between receivers (Synchro), RS-232/485/ CANopen/Profibus DP serial communication port boards.

ACRM5E

AC power. Comes with a number of configurable outputs, internal antenna standard or optional external antenna, 16 inputs for Data Feedback.
5 expansion slots are available for programmable relay boards, voltage/current analog output boards, digital and/ or analog input boards, variable resisistive output boards, sync boards between receivers (Synchro), RS-232/485/ CANopen/Profibus DP serial communication port boards.

DCRM24

DC power. With 21 programmable MOSFET digital outputs + 2 relays + START and STOP, internal antenna standard or optional external antenna, 8 inputs for Data Feedback.
2 expansion slots are available for programmable relay boards, voltage/current analog output boards, digital and/ or analog input boards, variable resisistive output boards, sync boards between receivers (Synchro), RS- 232/485/ CANopen/Profibus DP serial communication port boards.

MVRL9E

AC power. Comes with a number of configurable outputs, internal antenna standard or optional external antenna, 16 inputs for Data Feedback.

9 expansion slots are available for programmable relay boards, voltage/current analog output boards, digital and/or analog input boards, variable resisistive output boards, sync boards between receivers (Synchro), RS-232/485/CANopen/Profibus DP serial communication port boards.

Optional Boards

AirRIR05A

- 5 relays, contacts 10A, 250 VAC N.O. / N.C.
- Connector with spring terminals
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

AirRIR08A

- 8 relays, 6A contacts, 250 VAC N.O.
- Connector with spring terminals
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

AirRIV06A

- 6 analog outputs - voltage (0÷10 V, -10 +10 V) or current-loop (0÷20 mA)
- Removable memory card
- Set up of the parameters is remote-programmable or through micro SD
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E

AirRIC06A

- 12 analog outputs - PWM (0÷2 A)
- Removable memory card
- Set up of the parameters is remote-programmable or through micro SD
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E

AirRID06A

- 6 adjustable analog outputs - voltage (0÷28 V)
- Removable memory card
- Set up of the parameters is remote-programmable or through micro SD
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

AirRIAMIA

- 4 analog inputs (0÷10 VDC o 0.20 mA), load cells, pulse counter and RS 232/485 serial interface
- Removable memory card
- Set up of the parameters is remote-programmable or through micro SD
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

AirRIP01A

- Board with variable resistive output (0÷10 kΩ)
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

AirRISYNA

- Synchro communication interface board between multi-unit system receivers
- Depending on its programming and the electrical state of the digital inputs of selected receivers from the transmitter, this card can condition the outputs of the controlled receiving units.
- Removable memory card
- Set up of the parameters is programmable through micro SD
- Suitable with receiving units: ACRM5E, MVRL9E.

AirRIPRFA

- Profibus DP communication interface board
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

AirRICANB

- CANopen 2.0 A communication interface board
- Removable memory card
- Can also be programmed to communicate with a customized CANopen
- Suitable with receiving units: ACRM15, DCRM24, ACRM5E, MVRL9E.

Infrared Sensor

Infrared (IR) is an option available for the AIR Series to delimit radiocontrol operation area when required under special working conditions. IR is composed of both an illuminator installed on the machine and a sensor installed on transmitting unit that receives infrared emission from the illuminator.

Features:

- **Infrared start-up:** radiocontrol can only start within a bound area and prevents unintended start-up in unsafe areas.
- **Infrared range limiting:** allows operator to work only when infrared units are aligned within the operation range.

Zero-G Sensor

Zero-G Sensor may act for one or more of the following causes:

- **Impact, thrown, rolling:** Zero-G Sensor activates when the transmitting unit impacts with a movement or in case of thrown or rolling;
- **Fall:** Zero-G Sensor activates when the transmitting unit falls from higher than 1 meter;
- **Tilt:** Zero-G Sensor activates when the transmitting unit is tilted at a defined angle to the ground.


Cable Control

Cable Control is an option available for AJS, AJR and AJM. It connects the transmitting unit via cable to the receiving unit by replacing the radioelectric link and it's used:

- in particular working conditions established by the Machine Manufacturer;
- when it is not possible to established a radio link between radio remote control units;
- when working in environments where using radio frequencies is not allowed or is dangerous;
- when a battery is not available.

Multiple Systems

Autec's AIR Series can also offer solutions for multi-unit systems; that is, for remote systems that involve either more than one receiver or transmitter.

Multiple Transmitter Systems
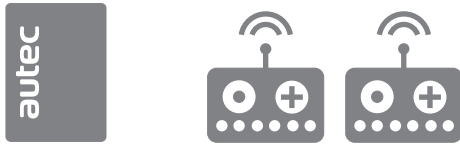
The multiple transmitter system (i.e. "Take & Release") is comprised of more than one portable transmitting unit (up to 15) from which multiple operators can remotely control a single machine by taking control of the receiver on the machine itself. In order for a transmitter to assume ("TAKE") control of the machine, a previous operator must "RELEASE" the machine.

Multiple Receiver Systems

A multiple-receiver system is one in which a single transmitter can control multiple receivers. This is an effective way to manage equipment costs when the same operator handles a number of machines.

Line up link: Up to 4 receivers. In case a transmitter loses connection with one of the receivers, the others in the line-up sequence will all STOP as well.
Independent dual link: Up to four receivers. In case the transmitter loses connection with a receiver, only the machine with the lost connection will STOP operation. The other machines will continue to work "independently".
Independent multiple link: From 5 to 15 receivers in simultaneous use. In case of connection loss between a receiver and the transmitter, only the machine(s) with lost connection will not function. Others connected will continue to function.
One to one link: From 2 to 15 receiving units. The transmitting unit can select and control only one receiver at a time.

Multiple Unit System

A multiple-unit system involves from 2 to 4 receiving units and between 2 and 4 transmitting units. This is also known as a "pooled-resource system", where multiple users can control multiple machines across multiple shifts - even multiple jobsites. The same remote can control multiple machines, and each machine can be controlled by up to four transmitters, but each machine can only be controlled by a single transmitter at a time.

Technical Data

General		
Frequency Band	433.05 – 434.79 (64 channels)	915-928 MHz (255 channels)
Hamming Distance	≥9	
Typical Working Range	75-100 m	240-330 ft
Safety performance of the STOP function	up to PL d (EN ISO 13849-1)	
Protection Degree	IP 65 (NEMA 4)	

Transmitting Units

A4, A6,A8 Handhelds		
Autonomy with full battery (at 20°C ie 68°F)	40 h with Li-ion battery	
Operating Temperature	(-20°C) ÷ (+55°C)	(-4°F) ÷ (+130°F)
Storage Temperature	(-40°C) ÷ (+70°C)	(-40°F) ÷ (+158°F)
Dimensions	64.5x179x37.5 mm	2.54x7.05x1.48 in
Weight	250 g	0.55 lb

LK NEO Handhelds		
Autonomy with full battery (at 20°C ie 68°F)	> 20 h with Li-ion battery > 10 h with NiMH battery	
Operating Temperature	(-20°C) ÷ (+55°C)	(-4°F) ÷ (+130°F)
Storage Temperature	(-40°C) ÷ (+70°C)	(-40°F) ÷ (+158°F)
Dimensions	**LK NEO 6-8:** 207.5x85x49 mm **LK NEO 10-12:** 265x85x49 mm	8.17x3.35x1.92 in 10.43x3.35x1.92 in
Weight	**LK NEO 6-8:** 380 g **LK NEO 10-12:** 450 g	0.837 lb 0.992 lb

Joystick Transmitting Units		
Autonomy with full battery (at 20°C ie 68°F)	40 h with Li-ion battery 20 h with NiMH battery	
Operating Temperature	(-20°C) ÷ (+55°C)	(-4°F) ÷ (+130°F)
Storage Temperature	(-40°C) ÷ (+70°C)	(-40°F) ÷ (+158°F)
Dimensions	**AJS:** 258x170x126 mm **AJR:** 260x200x190 mm **AJM:** 310x210x190 mm	10.20x7.00x5.00 in 10.20x7.90x7.50 in 12.20x8.30x7.50 in
Weight	**AJS:** 1.3 kg **AJR:** 2.0 kg **AJM:** 2.5 kg	3.0 lb 4.4 lb 5.5 lb

SIDEKICK SK4

Power Supply	3.7 VDC with internal Li-ion battery	
Frequency Band	433.05-434.79 MHz (64 channels)	
Typical Working Range	100 m	330 ft
Safety performance of the STOP function	up to PL d (EN ISO 13849-1)	
Selector Lever	military standard MIL-83731	
Autonomy with full battery (at 20°C ie 68°F)	> 16 h	
Protection Degree	IP 65 (NEMA 4)	
Operating Temperature	(-20°C) ÷ (+55°C)	(-4°F) ÷ (+130°F)
Storage Temperature	(-40°C) ÷ (+70°C)	(-40°F) ÷ (+158°F)
Dimensions	138x118x60 mm	5.43x4.65x2.36 in
Weight	450 g	0.992 lb

Receiving Units

ACRS13 G/L DCRS13

Power supply	ACRS13G/L: 40-264VAC	DCRS13: 9-30VDC
Antenna	Internal, external optional	
Maximum number of outputs	12 on / off + START and STOP	
Rated load of STOP/Safety functions	4A (250VAC)	
Commands rated current	6A (250VAC)	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	Cable gland,16-pin reduced plug	
Dimensions	123x258x83 mm	4.84x10.16x3.27 in
Weight	1.2 kg	2.7 lb

HACRP8

Power supply	40-440VAC	
Antenna	Internal	
Maximum number of outputs	7 on / off + START and STOP	
Rated load of STOP/Safety functions	4A (250VAC)	
Commands rated current	4A (250VAC)	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	Cable gland,10-pin reduced plug	
Dimensions	144x162x63 mm	5.67x6.38x2.48 in
Weight	650 g	1.43 lb

MVRCAN

Power supply	8-30VDC	24VAC
Antenna	External, internal optional	
I/O serial	CAN Open 2.0	
Rated load of STOP/Safety functions	6A (30VDC)	
Commands rated current	4A (30VDC)	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	10-pin reduced plug	
Dimensions	144x162x63 mm	5.67x6.38x2.48 in
Weight	650 g	1.43 lb

ACRM15

Power supply	40-264VAC	
Antenna	Internal, external optional	
Maximum number of outputs	30 on / off + START and STOP	
Rated load of STOP/Safety functions	4A (250VAC)	
Commands rated current	6A (250VAC)	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	Cable gland, 24 or 32-pin plug	
Dimensions	185x287x105 mm	7.28x11.30x4.13 in
Weight	2.2 kg	4.9 lb

DCRM24

Power supply	9-30VDC	
Antenna	Internal, external optional	
Maximum number of outputs	39 on / off + START and STOP	
Rated load of STOP/Safety functions	STOP: 6A (30VDC)	Safety: 10A (30VDC)
Commands rated current	4A (30VDC) MOSFET, 10A (30VDC) relays	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	Cable gland, 24 or 32-pin plug	
Dimensions	185x287x105 mm	7.28x11.30x4.13 in
Weight	2.2 kg	4.9 lb

ACRM5E

Power supply	24-264VAC	
Antenna	Internal, external optional	
Maximum number of outputs	40 on / off + START and STOP	
Rated load of STOP/Safety functions	STOP: 6A (250VAC)	Safety: 10A (250VAC)
Commands rated current	6/10A (250VAC)	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	Cable gland, 24 or 32-pin plug	
Dimensions	185x287x105 mm	7.28x11.30x4.13 in
Weight	2.2 kg	4.9 lb

MVRL9E

Power supply	24-264VAC	9-30VDC
Antenna	External, internal optional	
Maximum number of outputs	71 on / off + START and STOP	
Rated load of STOP/Safety functions	STOP: 6A (250VAC)	Safety: 10A (250VAC)
Commands rated current	6/10A (250VAC)	
Operating temperature	(-20°C) ÷ (+70°C)	(-4°F) ÷ (+158°F)
Storage temperature	(-40°C) ÷ (+80°C)	(-40°F) ÷ (+176°F)
Cabling	Cable gland, 24 or 32-pin plug	
Dimensions	250x343x110 mm	9.84x13.50x4.33 in
Weight	4.5 kg	9.92 lb