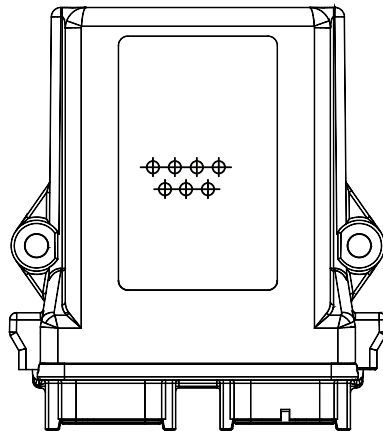


User Manual

# Remote Control

## MP08A TR2400 Receiver



**Revision history**

*Table of revisions*

<b>Date</b>	<b>Changed</b>	<b>Rev</b>
January 2019	Rebranded to Danfoss	0101

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## Safety instructions

### MP 08 general safety

The following safety instructions must be read carefully in order to install and use the product properly and to keep it in perfect working condition and to reduce the risk of misuse.

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Potential damage to operator and product.

Do not use this product on machines in potentially explosive atmospheres unless the model is ATEX/RATEX certified to do so.

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- Strictly adhere to the installation instructions contained in this document.
- Make sure that professional and competent personnel carry out the installation.
- Ensure that all site and prevailing safety regulations are fully respected.
- Make sure that this document is permanently available to the operator and maintenance personnel.
- Keep the transmission key when the set is not in use.
- On starting each working day, check to make sure that the STOP button and other safety measures are working.
- When in doubt, press the STOP button.
- Whenever several sets have been installed, make sure the transmitter is the right one. Identify the machine controlled on the label for this purpose on the transmitter or by using the display (in case it has one).
- Service the equipment periodically.
- When carrying out repairs, only use spare parts from Danfoss.

### MP 08 safety warnings

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Potential damage to operator and product.

Follow the guidelines below to reduce risk of injury to the operator and the product.

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- Use the device with the manufacturer's battery and battery charger (if applicable).
- Only allow qualified personnel to operate the equipment.
- Always set the STOP button in the off position when not in use.
- Always press STOP before plugging in tether cable (if applicable).
- Do not operate product when visibility is limited.
- Make sure product is compatible with the machine.
- Avoid knocking or dropping the product.
- Do not use the product if a failure is detected.

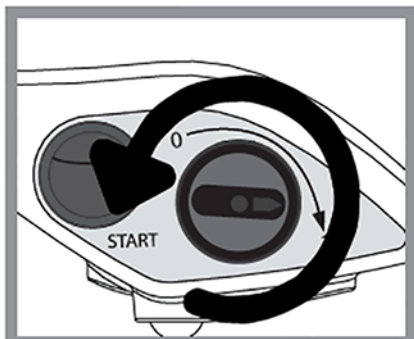
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Changes or modifications not approved by Danfoss can void the user's authority to operate this product.

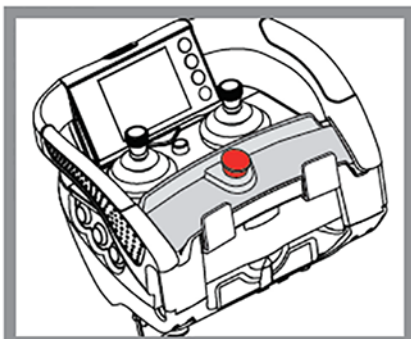
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**Safety instructions**

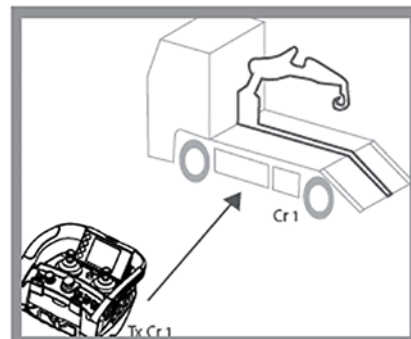
*Quick reference precautions*



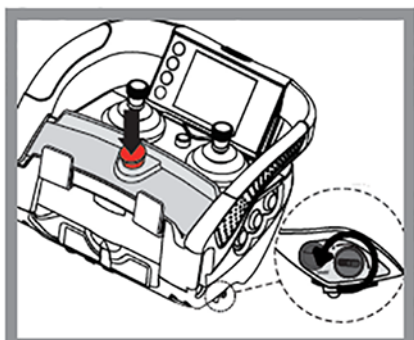
Remove the transmission key only when the set is not in use or to deny the access



When in doubt, press the STOP button



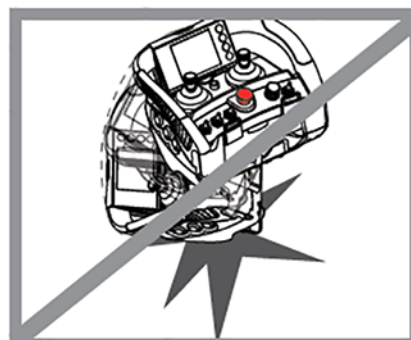
Make sure the transmitter works with the machine to be handled



After use set the contact key and the STOP button



Do not use the set when visibility is limited

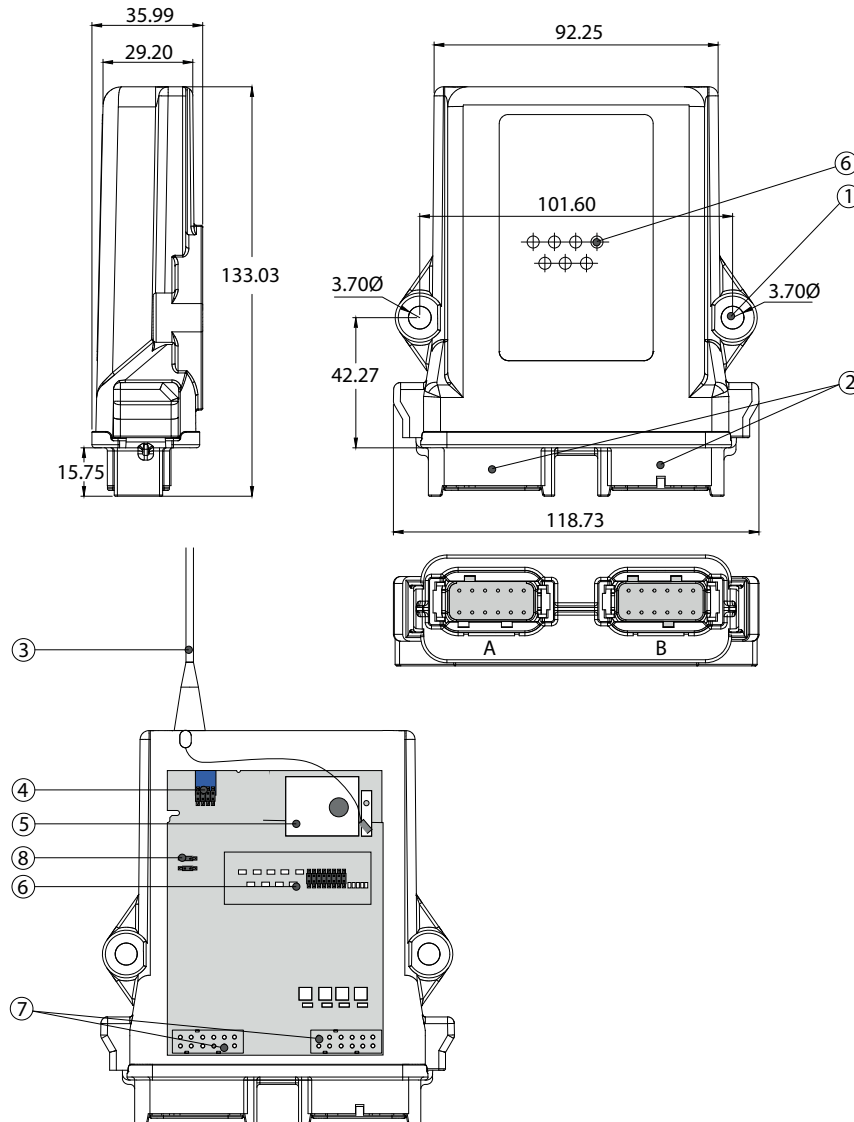


Avoid knocking or dropping the set

**Technical description**

**MP 08A dimensions and identification**

*Dimensions in mm*



1. Fixing slots (fixed assembly or anti-vibration)
2. DEUTSCH connector
3. External antenna A60 (433) or A70 (870)
4. Removable internal EEPROM
5. TR800-CE MCX Radio
6. External signaling LEDs
7. DEUTSCH connector pinout
8. Analog input configuration jumpers

## Installation

### MP 08 receiver installation

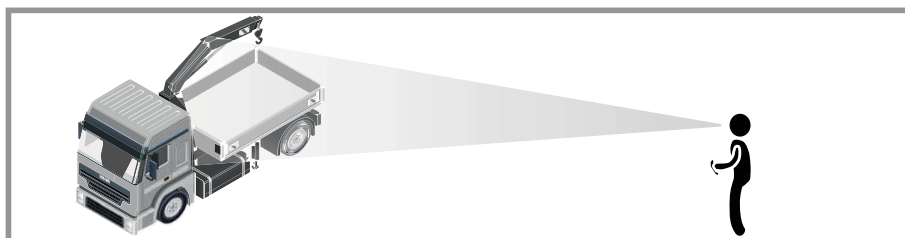
The below information describes hazards to be aware of during installation and steps to locate the receiver.

#### Risk of shock

Completely shut down the machine when installing the receiver.

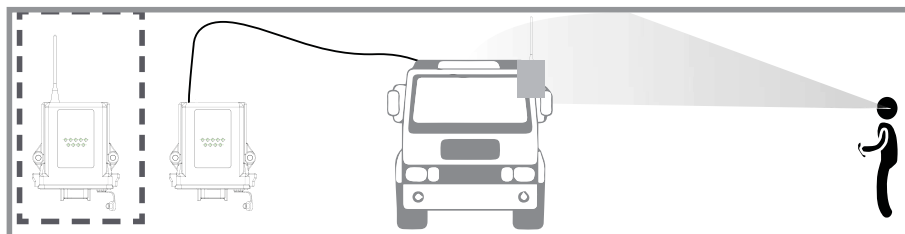
Check the power supply and shut off the main switch to disconnect the interface cable between the receiver and the machine's electrical box.

1. Find an easily accessible and clear location with a direct vision between the receiver's antenna and the transmitter's working area.

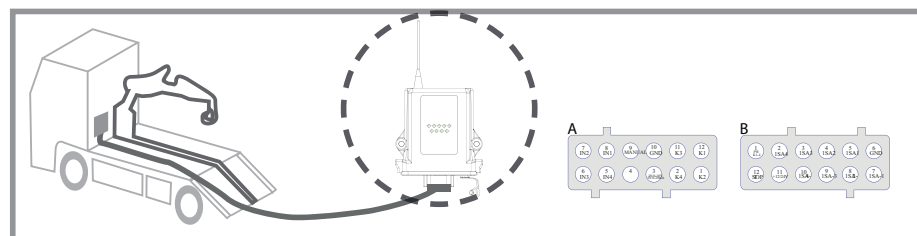


2. Optional: If it is difficult to achieve direct vision between the receiver's antenna and the transmitter's working area, it is recommended to use an extended antenna in a clear location (only for models that allow an antenna).

In areas of high vibration, the use of dampers is advised.



3. Proceed to connect the power supply. Use the connection block diagram provided with the system, where the correspondence between the transmitter maneuvers and the receiver's outputs are detailed.



4. Check if the electrical installation and verify if there's an option to connect the neutral or the ground cable. In that case, don't forget to connect the ground cable.

The use of fireproof or flame retardant cables are recommended for the connection.

## Installation

### MP08 input and output configuration

This receiver has one analog input IN 0-10V (without isolation) or IN 0-20mA (without isolation). These inputs share the same hardware/pins and each one is selected by an internal jumper.

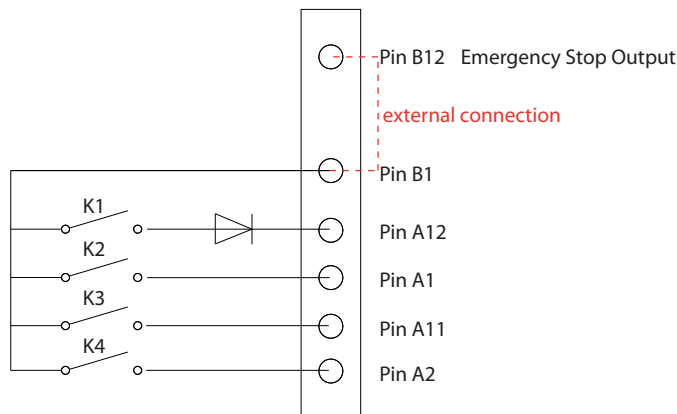
The two inputs cannot be live together at the same time.

The MP08 includes a 7.5A internal fuse.

### MP08A digital outputs

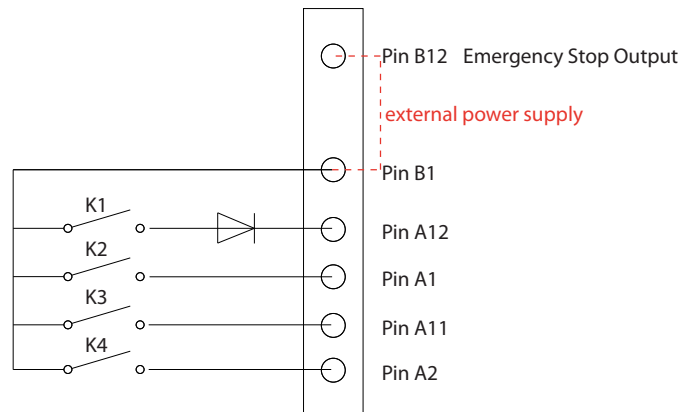
The digital output group K1-K4 have a common contact at pin B1 of the connector. This pin is connected to pin B12 (stop) for powering up the group of outputs. Maximum of 2A per output.

*DEUTSCH connector*



As an alternative, this group of outputs (K1-K4) can be connected directly to the external general power supply in order to provide a higher capacity of current.

*DEUTSCH connector*



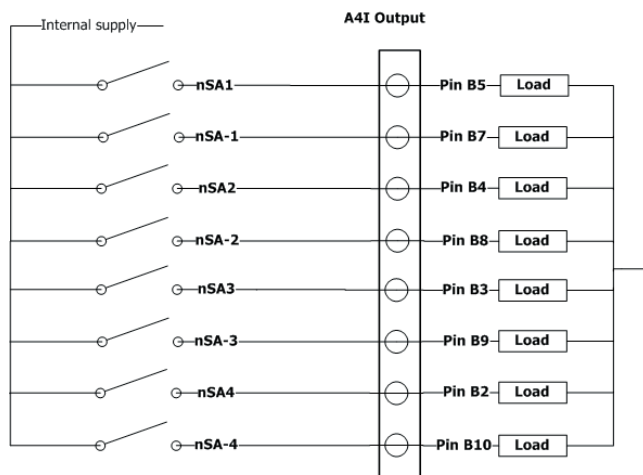


## Installation

### MP08A analog outputs

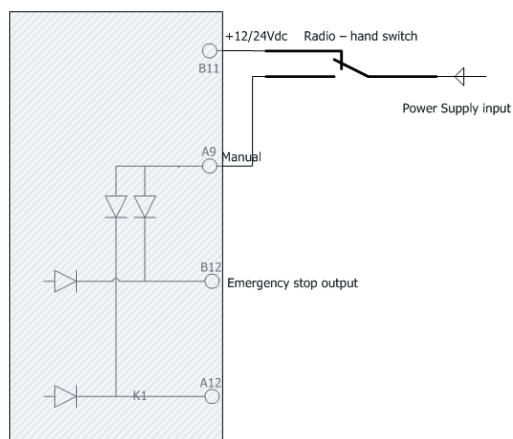
The illustration below shows the pinout information for outputs 1-4. Maximum of 2A per output.

*DEUTSCH connector*



### MP08A radio/manual option

The receiver has the possibility to connect to an external switch for changing from Radio mode to Manual mode if needed. Thus, all inputs and outputs of the receiver will be voided, except from the emergency stop output.

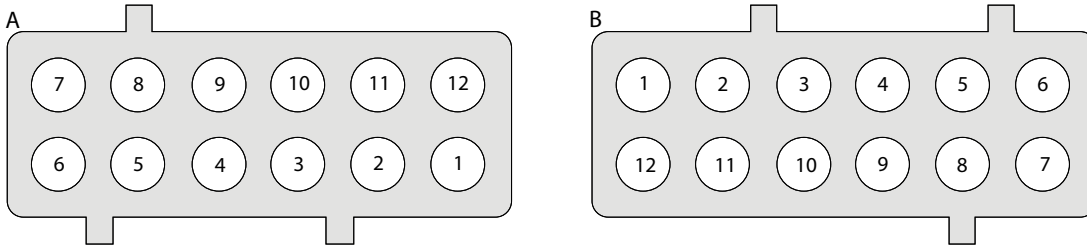


This option is exclusive to MP08A.

## Installation

### MP08A pinout information

Below is a description of each pin in the connector.



#### Connector A

Pin	Description
1	K2
2	K4
3	IN 0-10V / IN 0-20mA
4	N/A
5	IN4
6	IN3
7	IN2
8	IN1
9	Manual
10	GND
11	K3
12	K1

#### Connector B

1	PW / K1-4
2	1SA4
3	1SA3
4	1SA2
5	1SA1
6	GND
7	1SA-1
8	1SA-2
9	1SA-3
10	1SA-4
11	+12/24V
12	STOP

## Troubleshooting

### Receiver LED troubleshooting guide






The troubleshooting LEDs are located on then receiver board. Use the following table to identify faults and corrective action.

In order to reach the signaling, the receiver must be accessible and connected and the two screws located on the base of the receiver must be released using the suitable tool.

The LEDs on the receiver board are POWER, STATUS, DIAG1, DIAG2, ORDER and RELAY in that order.

LED	Color and frequency	Pulse frequency	Description	Action
POWER	Green   continuous		Switched ON if powered	Check power supply if it is switched off.
STATUS	Blue   fast pulses		System is starting; establishing connection with radio and EEPROM	Wait
	Blue   continuous		Waiting for transmitter communication, coming from ACTIVE STOP	Release STOP button and press START
	Blue   slow pulses		Waiting for transmitter communication, coming from PASSIVE STOP	Press Start
	Green   continuous		Working	Operate
	Red   slow pulses		EEPROM module missing or corrupt	Check EEPROM and reprogram if necessary
	Red   double pulses		Radio communication error	Replace receiver
	Red   triple pulses		Secondary micro error or error between micro communication	Replace receiver
STATUS + DIAG1	Red   4 pulses Orange   slow pulses		Low tension in the receivers power supply	Supply the system with the correct voltage
	Red   4 pulses Orange   double pulses		Hardware error	Replace receiver
	Red   4 pulses Orange   triple pulses			
Red   4 pulses				
Orange   4 pulses				

## Troubleshooting

LED	Color and frequency	Pulse frequency	Description	Action
DIAG1	Green   slow pulses		Low link quality	N/A
	Green   double pulses		Medium link quality	N/A
	Green   triple pulses		High link quality	N/A
ORDER	Green   continuous			N/A
RELAY	Green   continuous		STOP relay activated	N/A







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