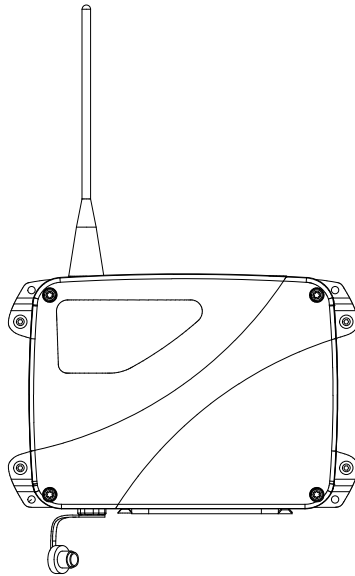


User Manual

Remote Control MP20A Receiver



Revision history

Table of revisions

Date	Changed	Rev
January 2019	Rebranded to Danfoss Power Solutions	0101

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Safety instructions

MP20A 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.

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.

- 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.

MP20A safety warnings

Potential damage to operator and product.

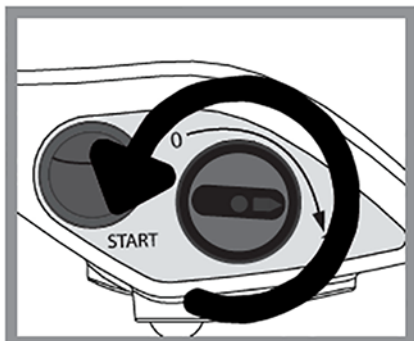
Follow the guidelines below to reduce risk of injury to the operator and the product.

- 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.

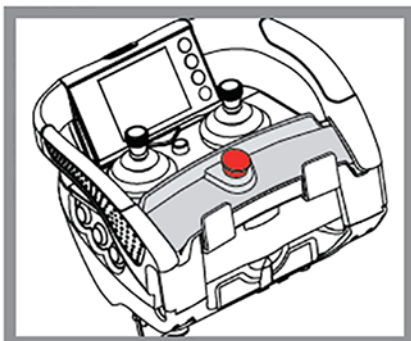
Changes or modifications not approved by Danfoss can void the user's authority to operate this product.

Safety instructions

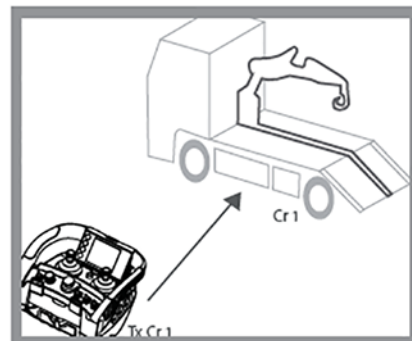
Quick reference precautions



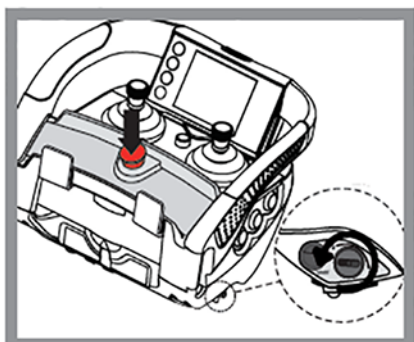
Remove the transmission key only when the set is not in use or to deny the access



When in doubt, press the STOP button



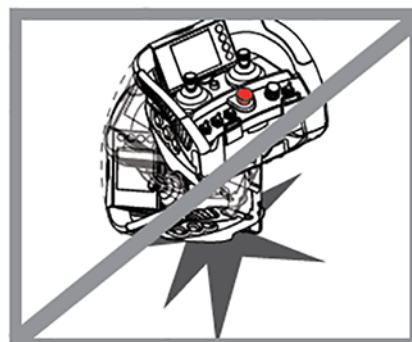
Make sure the transmitter works with the machine to be handled



After use set the contact key and the STOP button



Do not use the set when visibility is limited

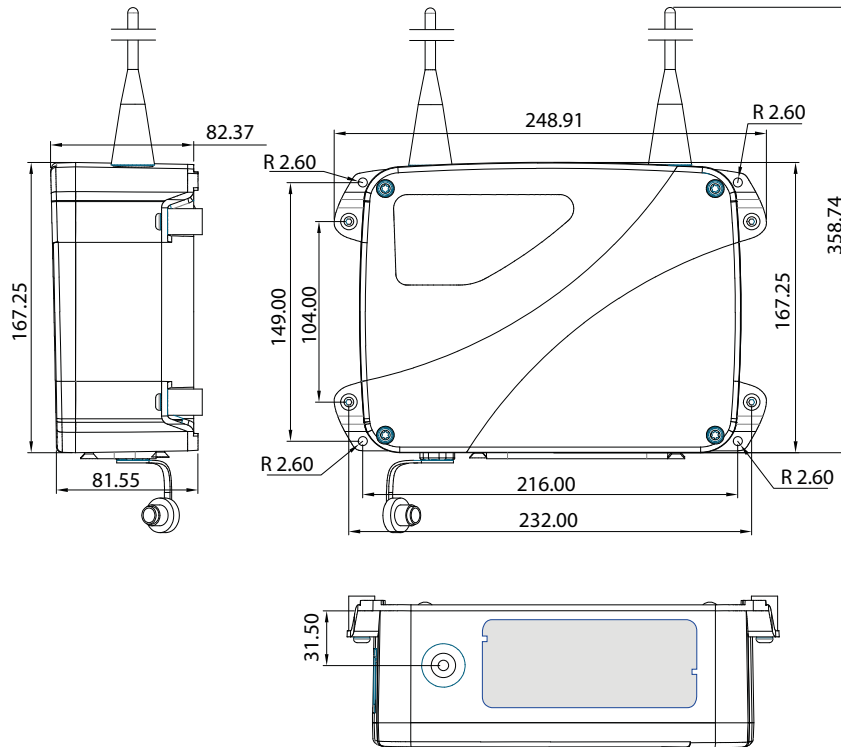


Avoid knocking or dropping the set

Technical description

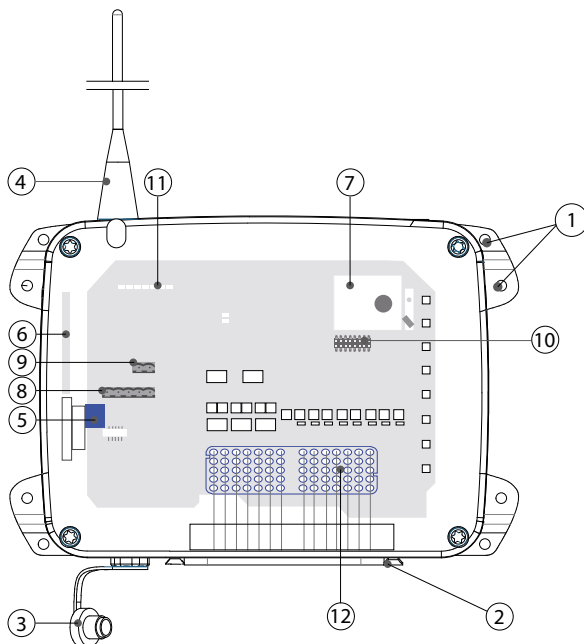
MP20 dimensions

Dimensions in mm



Technical description

MP20 hardware description



1. Fixing slots (fixed assembly or anti-vibration)
2. DEUTSCH connector
3. Tether connection
4. External antenna A60 (433) or A70 (870)
5. External EEPROM
6. LCD connection
7. TR800-CE MCX radio
8. CAN connection
9. CAN power supply
10. BUS termination CAN
11. Signaling internal LEDs
12. DEUTSCH connector pinout

Installation

MP20A receiver installation

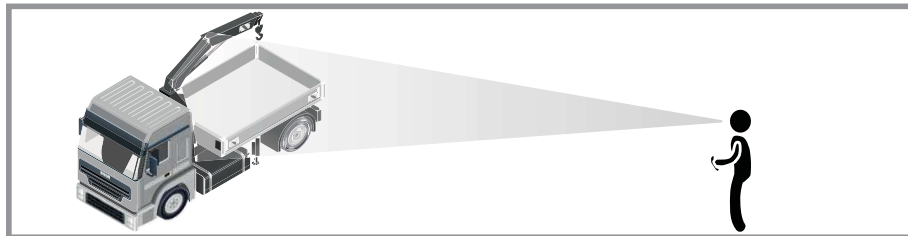
The below information describes hazards to be aware of during installation and steps to locate the receiver.

Risk of shock

Completely shut down the machine when installing the receiver.

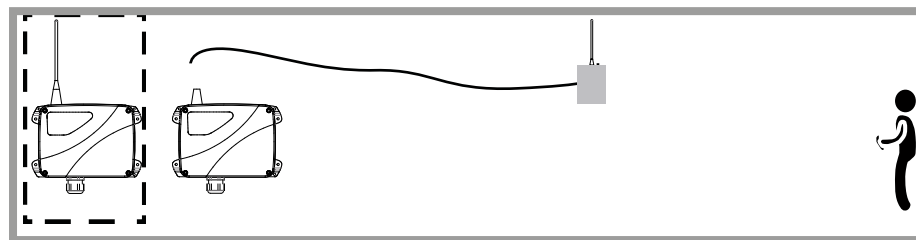
Check the power supply and shut off the main switch to disconnect the interface cable between the receiver and the machine's electrical box.

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

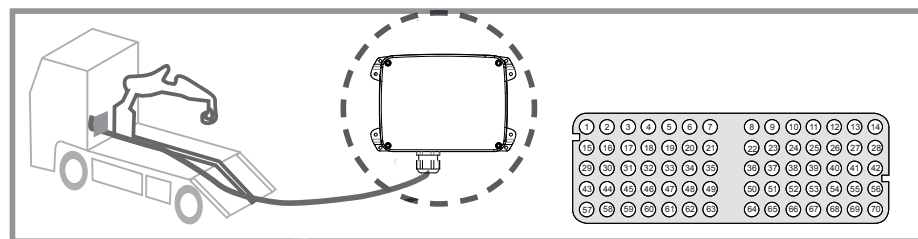


2. Optional: If it is difficult to achieve direct vision between the receiver's antenna and the transmitter's working area, it is recommended to use an extended antenna in a clear location (only for models that allow an antenna).

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.



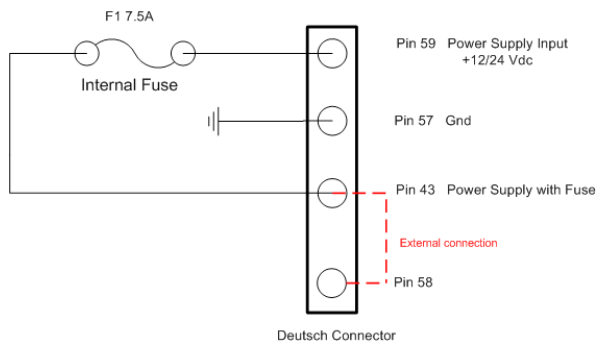
4. Check if the electrical installation and verify if there's an option to connect the neutral or the ground cable. In that case, don't forget to connect the ground cable.

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

Installation

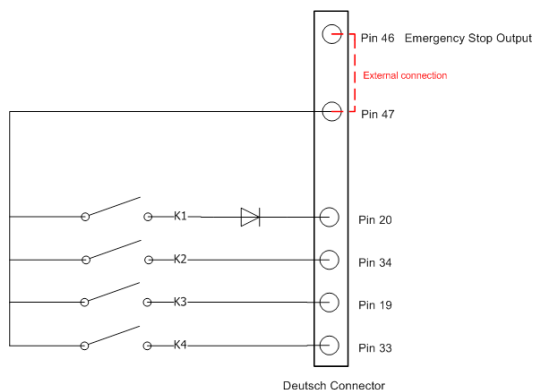
MP20 input and output configuration

The MP20 includes a 7.5A permeable internal fuse.

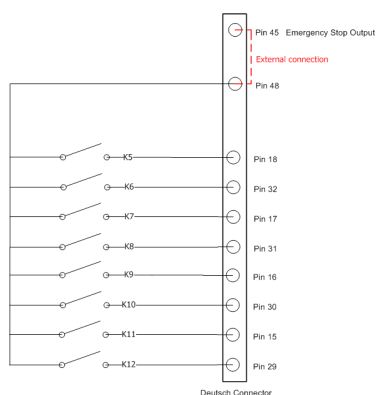


MP20 digital outputs

The digital outputs K1-K4 have a common contact at pin 47 of the connector. This pin is connected to pin 46 (stop) for powering up this group of outputs. Maximum 2A per output. It is recommended to use K1 for by-pass valve.

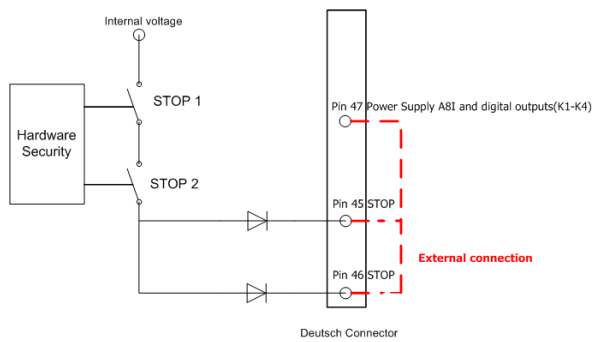
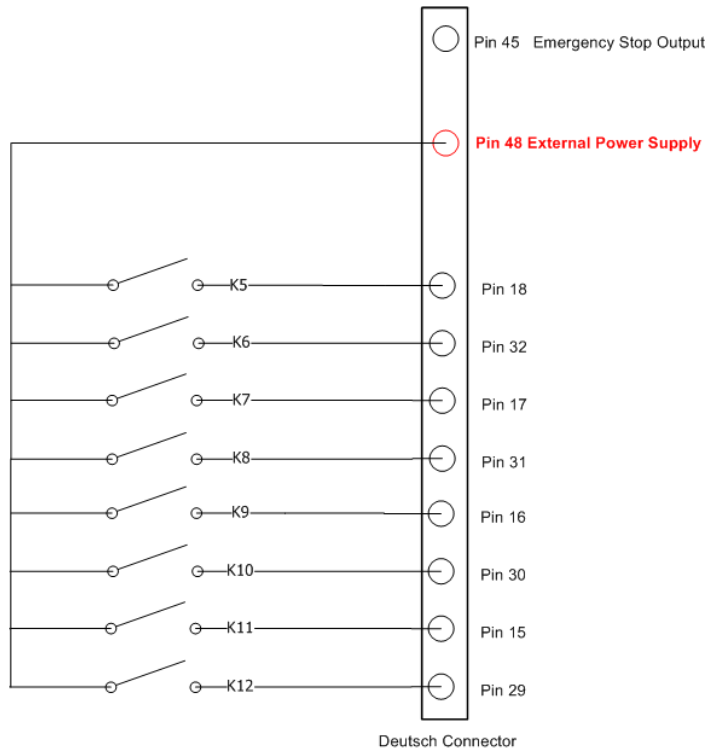


The digital output K5-K12 have a common contact at pin 48 of the connector. This pin is connected to pin 45 (stop) for powering up this group of outputs. Maximum 2A per output.



As an alternative, the K5-K12 output group can be connected directly to the external general power supply in order to provide a higher capacity of current.

Installation

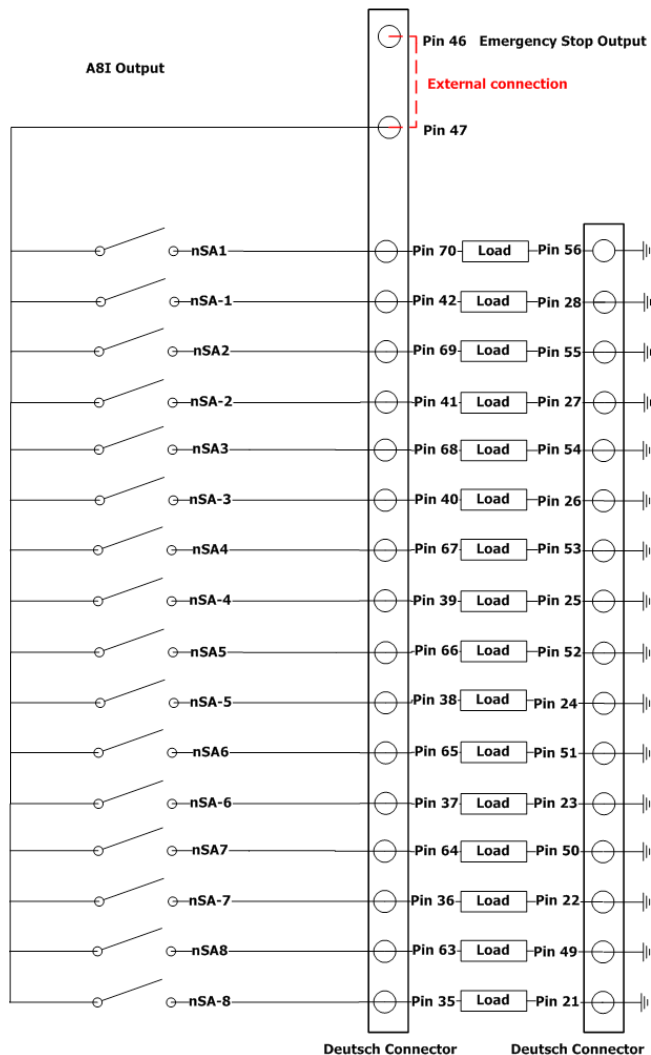


Installation

MP20 analog outputs

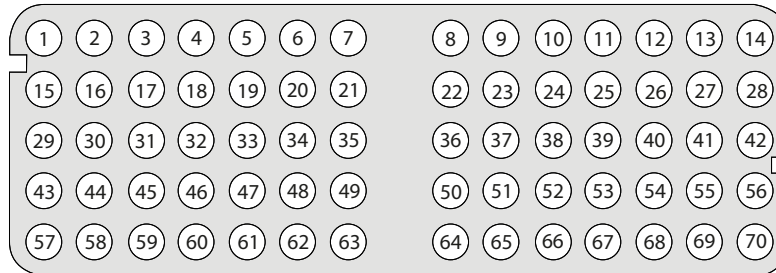
The analog outputs have a common contact at pin 47 of the connector. This pin is connected to pin 46 (stop) for powering up the 1-8 outputs. Maximum 2A per output.

nSA1-nSA8 have a common contact at pin 47 of the connector. Pin 47 connects with pin 46 (stop) in order to feed nSA1-nSA8 outputs. Maximum 2A per output.



Installation






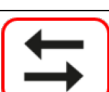
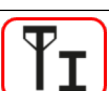



MP20 pinout



Pin	Description	Pin	Description
1	CAN-H	36	I SA-7
2	CAN-GND	37	I SA-6
3	CAN-L	38	I SA-5
4	-	39	I SA-4
5	-	40	I SA-3
6	-	41	I SA-2
7	IN-4	42	I SA-1
8	-	43	PSWF
9	-	44	HAND
10	-	45	STOP
11	-	46	STOP
12	-	47	PW-A81; K1-4
13	-	48	PW-A81; K5-K12
14	-	49	GND
15	K11	50	GND
16	K9	51	GND
17	K7	52	GND
18	K5	53	GND
19	K3	54	GND
20	K1	55	GND
21	GND	56	GND
22	GND	57	GND
23	GND	58	+RRC
24	GND	59	+12/24V
25	GND	60	IN-3
26	GND	61	IN-2
27	GND	62	IN-1
28	GND	63	I SA8
29	K12	64	I SA7
30	K10	65	I SA6
31	K8	66	I SA5
32	K6	67	I SA4
33	K4	68	I SA3
34	K2	69	I SA2
35	I SA-8	70	I SA1

Troubleshooting

Receiver icon troubleshooting

Icon	Description	Action
	Power failure	Check the receiver power supply
	Hardware error	Contact distributor; replace receiver
	CAN error	Contact your distributor
	Repose state due to active stop	Release stop button and turn transmitter on
	Repose state due to passive stop	Reestablish link to activate the transmitter
	Linked state	Correct link
	Correct ID (link quality as indicated by the bar)	In case of no signal, check if the transmitter is turned on
	Incorrect ID	In case of interference, change frequency channel
	RF signal detected	In case of interference, change frequency channel
	Mask error	Contact your distributor

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