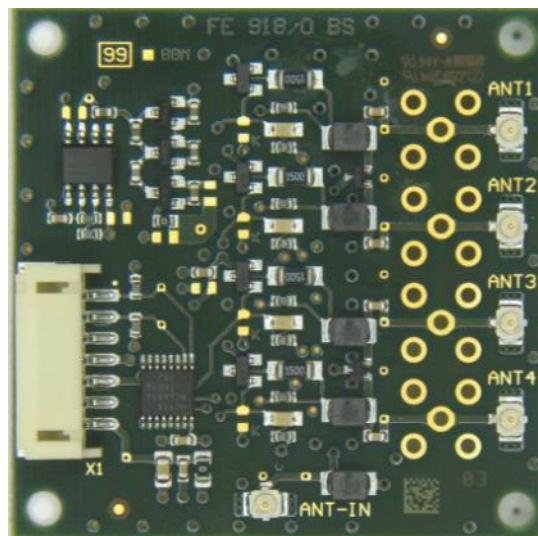




ID CPR.ANT.MUX.M4 (4775.000.00)

Antenna Multiplexer for Reader ID CPR74



Note

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1. Safety Instructions / Warning - Read before start-up !

- The device may only be used for the intended purpose designed by for the manufacturer.
- The operation manual should be conveniently kept available at all times for each user.
- Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.
- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
- Repairs may only be executed by the manufacturer.
- Installation, operation, and maintenance procedures should only be carried out by qualified personnel.
- Use of the device and its installation must be in accordance with national legal requirements and local electrical codes .
- When working on devices the valid safety regulations must be observed.

2. Performance Features of ID CPR.ANT.MUX.M4

The antenna multiplexer is designed for connecting up to 4 antennas with the antenna output of the ID CPR74 reader. Thus it is possible to have up to 5 reading areas if the internal antenna of the ID CPR74 is also used.

The selection of the active antenna is controlled via the digital output (OUT1/OUT2) from the reader.

2.1. Scope of Delivery

The following components are included:

- 1 x Antenna-Multiplexer ID CPR.ANT.MUX.M4

2.2. Available Accessories and Spare Parts

Table 1: Available accessories and spare parts:

Part No.	Name	Description
3673.000.00	ID ISC.ANT100/100-U.FL-A	HF module antenna 100 mm x 100 mm
3674.000.00	ID ISC.ANT40/30-U.FL-A	HF module antenna 30 mm x 40 mm
3540.000.00	ID ISC.ANT.C05-A	HF/UHF Antenna Cable U.FL 0,5 m
3621.000.00	ID ISC.ANT.C02-U.FL/SMA	Adapter Cable from U.FL to SMA, 0,2 m

2.3. References

The automatic controlling of the multiplexer function is possible via the connected ID CPR74 reader. The description of the configurations settings are available in the ID CPR74 system manual „H60410-1e-ID-B“.

See the following relevant chapter's:

- 3.3. CFG2: Inputs / Outputs general
- 3.17. CFG17: Antenna Multiplexing
- 4.9. [0x72] Set Output

3. Dimensions

The antenna multiplexer ID CPR.ANT.MUX.M4 is designed as electronic module and can be adapted on top of the ID CPR74 reader by using distance bolt's.

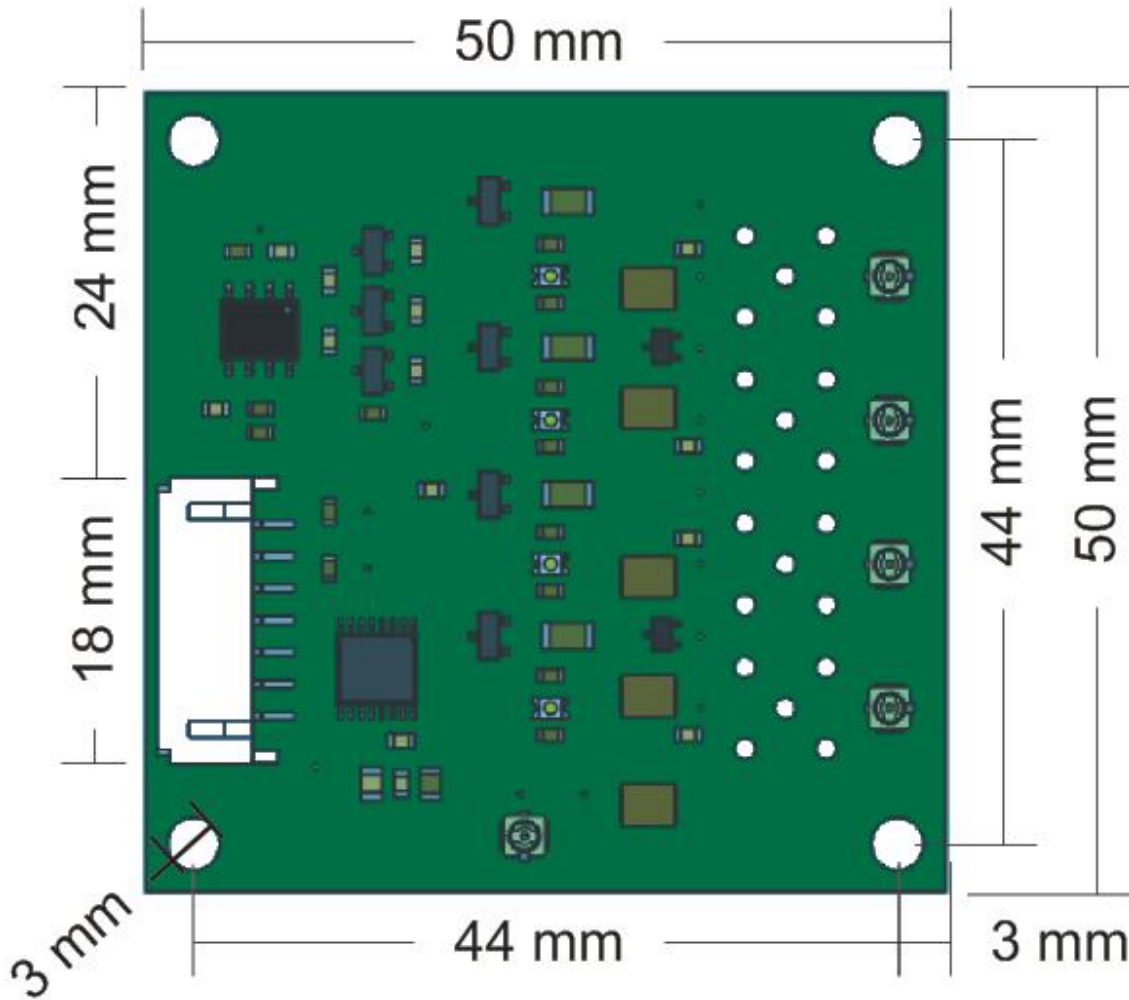


Figure 1: Dimension (top view)

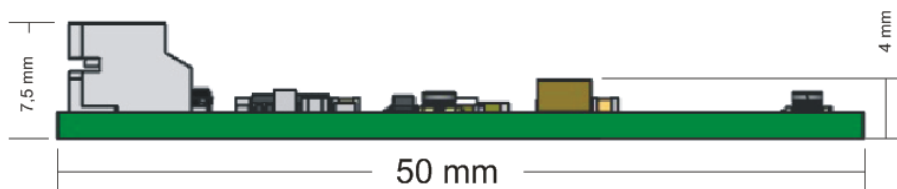


Figure 2: Dimensions (side view)

4. Terminals

4.1. Terminal X1

The module can be connected with the ID CPR74 reader by using the multi-pin connector X1.

The following figure 4 and the corresponding table 2 show the pin assignment of the connector X1 (7-pole) of type “JST PH” spacing 2 mm (horizontal).

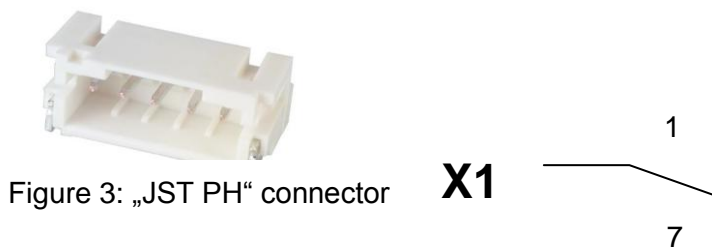


Figure 3: „JST PH“ connector

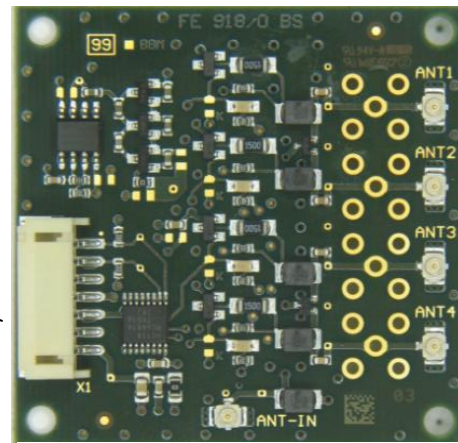


Figure 4: ID CPR.ANT.MUX.M4

X1 Pin-No.	Abbreviation	Name
1	IN-1	Digital Input 1
2	IN-2	Digital Input 2
3	-	-
4	GND*	Ground
5	GND*	Ground
6	-	-
7	VCC	+ 5 V DC ± 5 %

* GND is internally connected

Table 2: Pin assignment of the connector X1

NOTE:

- *The reader has to be supplied by a limited power supply (e.g. NEC Class 2/LPS power supply) according EN 62368-1 chapter Q.1, only*
- *Use only regulated power supply's.*
- *The connection cable (VCC; IN1/2) should be as short as possible and must not exceed 3 m to reduce the influence of noise.*
- *Connection cables >0,5 m should be twisted paired and shielded.*
- *Hf-connection cables (U.FL) >0,5 m should be wrapped around the connection cable to avoid ground loops.*
- *Reversing the polarity of the supply voltage may destroy the device.*
- *Supply voltages outside the specifications may destroy the device.*
- *If switching power supplies are used with the module, be sure that there is adequate filtering.*
- *Noise from the power supply can result in a reduction of the read/write range of the module.*

4.2. Wiring

Figure 5 shows the connection overview to a reader ID CPR74 and figure 6 a sample of the connection cable between the multiplexer and the Reader.

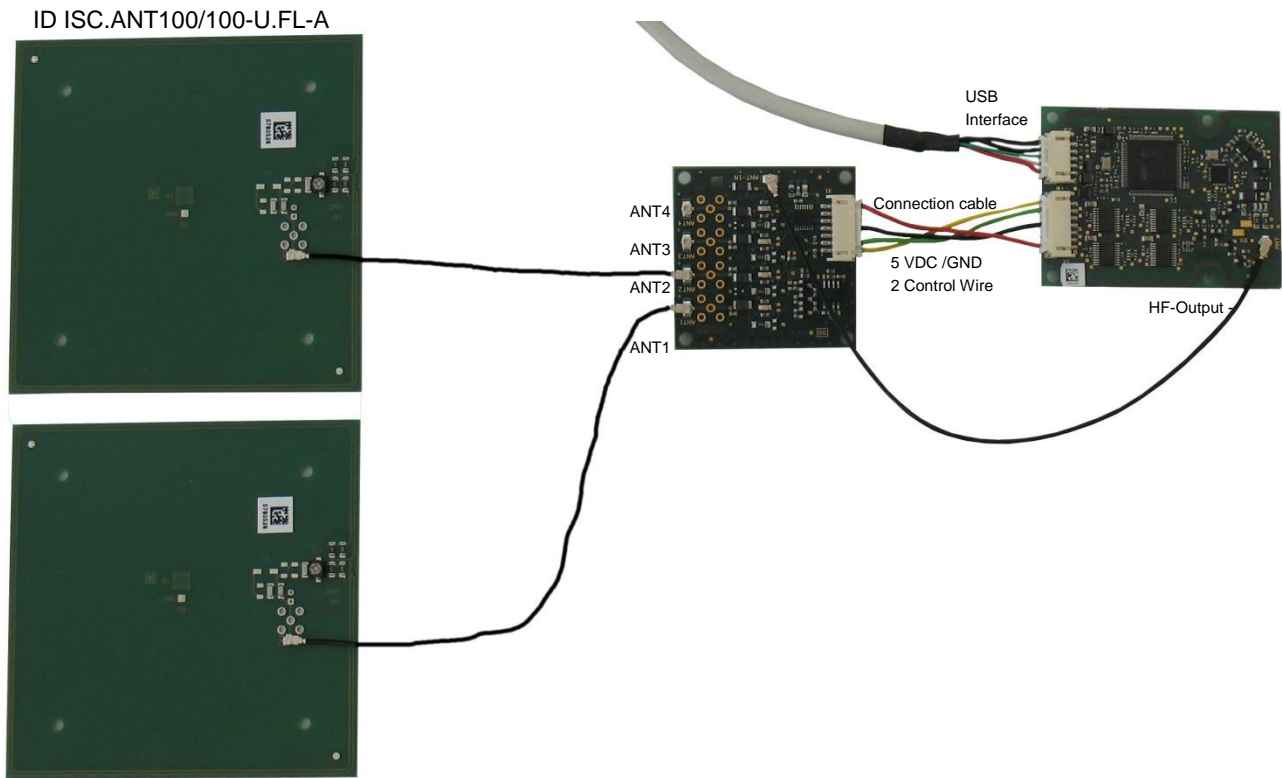


Figure 5: Connection overview

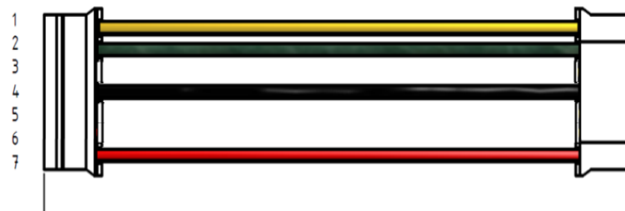


Figure 6: Connection cable between the ID CPR.ANT.MUX.M4 and the ID CPR74

4.3. Reader connection ANT-IN

The antenna output of the reader will be connected with the input (ANT-IN) of the multiplexer by using a short U.FL cable.

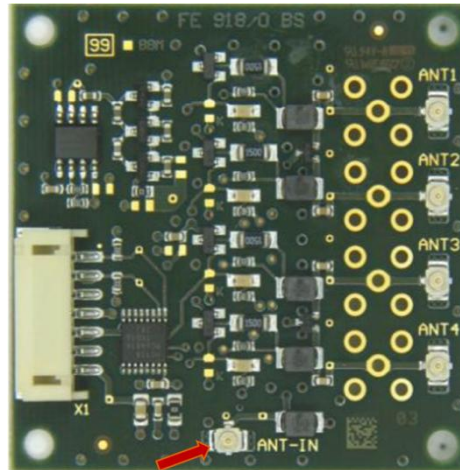


Figure 7: Position of the reader connector ANT-IN

4.4. Antenna connection ANT1 – ANT4

The external antennas can be connected with the antenna connectors (ANT1...ANT4) with the help of an U.FL cable.

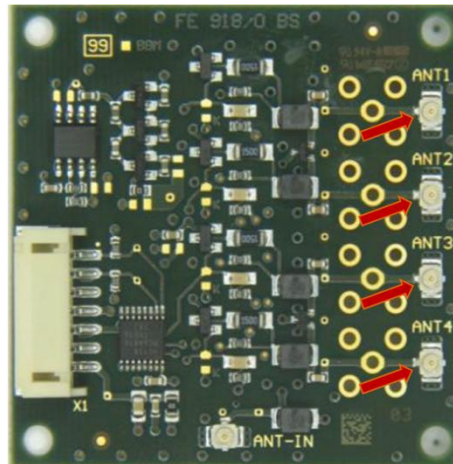


Figure 8: Position of the antenna connectors ANT1 – ANT4

NOTE:

- ***Only for use with 50 Ω matched external antennas. The permanent usage of unmatched antennas can damage the connected reader electronic.***
- ***The antenna output is neither permanent short circuit protected nor permanent no-load protected.***
- ***The antenna cable between reader and antenna should be in total no longer than 1 m. The use of other cable length are possible after consulting the manufacturer.***
- ***To avoid transient emissions the switching between the antenna outputs must be done without reader RF power on. The ID CPR74 will take care about this automatically.***

5. Indicators / LED

Each antenna output has a LED which shows the active antenna output channel. Only one channel will be active at the same time.

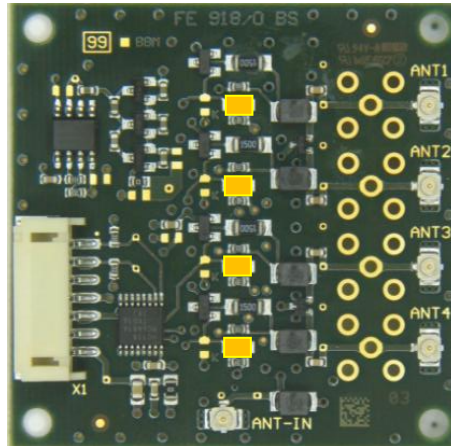


Figure 9: Position of the LED

6. Technical Data

Table 3: Technical Data

		ID CPR.ANT.MUX.M4
Weight		approx. 12g
Temperature Range	Operating	-25 °C up to +70 °C (-13 °F up to +158 °F)
	Storage	-40 °C up to +85 °C (-40 °F up to +185 °F)
Humidity		max. 95 % (not condensing)
MTBF		500 000 h
Power Supply		+5 V DC \pm 5 % Ripple: 0...250 kHz < 10 mVpp from 250 kHz < 0,1 mVpp
Current Consumption		< 40 mA
I/O	Digital Input	Low-Pegel: 0 .. 1.0V High-Pegel: 3.8V .. VCC Pull-Down: 10k Ω
	LED	4 LED (yellow)
Operating Frequency		13,56 MHz
RF Power		Max. 500 mW
Reader connection		U.FL connector
Antenna connection		4 x U.FL connectors for external antennas
EMV		EN 301 489
Safety and Health		EN 62368
Waste and Hazardous Substances		WEEE - 2002/96/EC RoHS - 2011/65/EC

7. Approvals

7.1. Europe (CE)

Hereby, FEIG ELECTRONIC GmbH declares that the radio equipment type ID CPR.ANT.MUX.M4 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

<http://www.feig.de/en/downloads-support/declarations-of-conformity.html>



Performance Classification according to ETSI EN 301 489: Class 2