

FDCI183 Transponder Product Manual

Characteristic

- Fulfill Chinese Standard of GB16806-2006 “Interlocking Control System”;
- 1 monitored inputs as collective detector connection;
- LED display of alarm and fault status;
- External 24VDC power supply;
- Microprocessor-controlled signal evaluation;
- Earth fault monitoring;
- With the Zener diode barrier, it is also possible to connect intrinsically safe detectors;
- Applicable in dry, dusty and humid areas in protection box.

Application

From a functional perspective, we distinguish between the primary side and the secondary side of the transponder. The primary side is the connection to the FD18-BUS. The secondary side is the connection to the collective detection line.

Compatible detector list

Type	Max. detector per line
HI520/OP520	32
DO1101A-EX/DT1101A-EX	25
DF1101-EX	5
FDL241-9-CN/DF1191/DF1192	1
FDO181C/FDT181C	32

Communication

The communication with the control panel is performed via the FD18-BUS. The configuration is performed on the control unit or commissioning tool.

Power Supply

Power supply of the primary side (FD18-BUS) is always ensured via the detector line FD18-BUS. Power supply of the secondary side must always be ensured via an external 24VDC supply unit. The primary and the secondary side are galvanically isolated.

Operating modes

The transponder can be in either of the following operating modes:

- Normal operation
- Localization

Normal operation

The transponder is in the intended operating mode. Inputs are monitored and assessed.

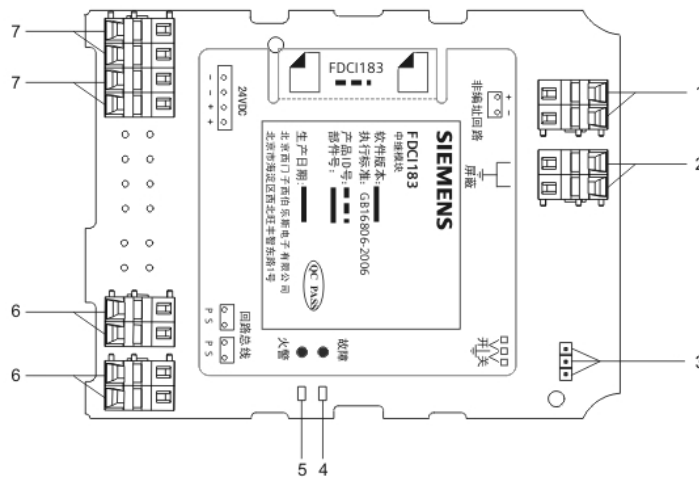
Localization

For an unambiguous identification, the transponder can be set in localization mode from the control unit. The localization mode is indicated by the LED.

Earth fault monitoring

The earth fault monitoring function can be switched off with a jumper. When the earth fault monitoring is switched on, the terminal of earth connection should be connected with grounding. When intrinsically safe detectors are connected, the earth fault monitoring must be switched off.

Structure



No.	Signification
1	Connection to collective detector line
2	Earthing connection
3	Jumper for the earth fault monitoring
4	LEDs for the status indication of alarm
5	LEDs for the status indication of fault
6	Connection of the FD18-BUS line
7	Connection of the 24V external power supply

LED Indicators

Red	Yellow	Signification
off	off	Normal condition
flashes every 1 s	off	Localization mode
on	off	Alarm mode
off	flashes every 4 s	Short mode
off	flashes every 41s	Open mode
off	on	Fault mode

Jumper

Position	Signification
ON	Earth fault monitoring is activated
OFF	Earth fault monitoring is deactivated(default)

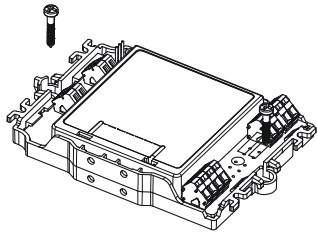


Fig. 2

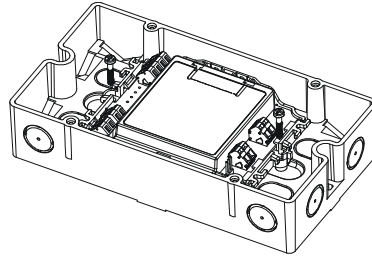


Fig. 3

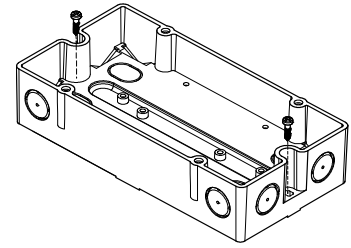


Fig. 4

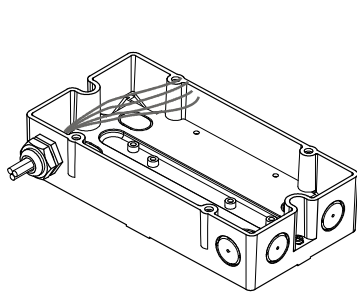


Fig. 5

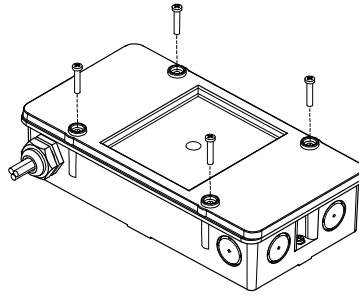


Fig. 6

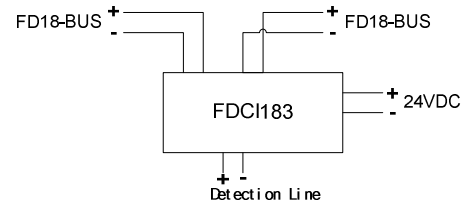


Fig. 7

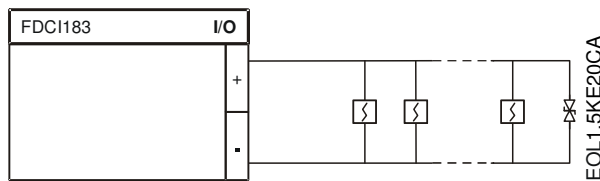


Fig. 8 Detection line connection

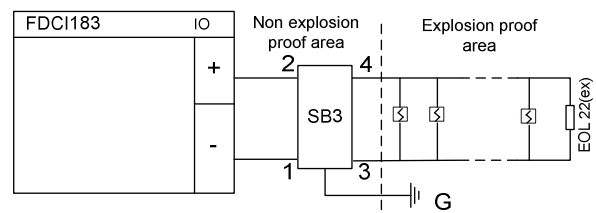


Fig. 9 Detector line with safety barrier
(the earth fault monitoring must be switched off)

Preparation



Voltage!
No power supply during installation.

- Determine type of installation:
 - Installation outside a switching cabinet or a control unit: use FDCH221 housing (Fig. 3).
 - Installation directly in a switching cabinet or a control unit: mount the module on an even surface (Fig. 2).

Procedure with installation on an even surface

- Put the transponder on an even surface.
- Fix it with two M4 screws (Fig. 2). Distance between installation holes: 118.0 ± 1.0 mm.

Procedure with installation in the housing

- Open the housing (Fig. 6).
- Determine the cable entries in the housing and break them out.
- Mount the housing on an even surface with two M4 screws (Fig. 4). Distance between holes: 182.0 ± 1.0 mm.
- Insert the cables and fix the cables in the housing (Fig. 5).
- Insert the seal and fix the lid additionally with four screws (Fig. 6). (only this way is IP65 protection guaranteed)

Electric connection

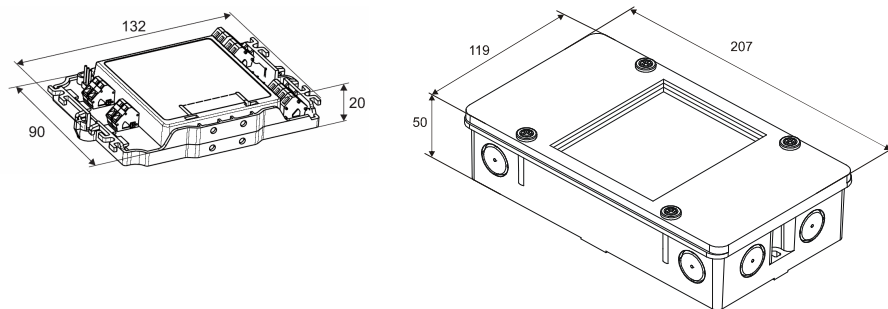


Input voltage should not be less than 18VDC.
Mind the positive and negative polar when connecting the diodes.
Connect only **one** wire per terminal.

- Connect the cables to the terminals according to the connection diagram (Fig. 7, Fig. 8, Fig. 9).
- Connect the line terminators (EOL). These must be connected to the end of the line (Fig. 8 / Fig. 9).
- Connect the cables to the module with cable ties (max. width 2.6 mm).

Dimensions

In:mm



Specification

FD18-BUS Operating voltage	12... 33 VDC
FD18-BUS Operating current	Quiescent: 0.45mA Alarm:1.1mA
External power supply	
- Input voltage	18... 32 VDC @ 0.15A
End of line	1.5KE20CA(EOL) or EOL22(ex)
Operating temperature	-10... +50 °C
Storage temperature	-30... +70 °C
Humidity	≤95 % rel.
Communication protocol	FD18-BUS
Load factor	3
Connectable terminal blocks	0.2... 2.5 mm ²
Color	
- Housing	Pure white, RAL 9010 transparent matt
- Cover	
Protection category EN60529 / IEC529	IP65
- with auxiliary housing	
Line impedance of collective detection line	150ohm (twins cable)

Order Information

Type	Material No.	Part No.	Designation	Weight
FDCI183			Transponder,Incl.1.5KE20CA(EOL)	0.098 Kg
FDCH221	S54312-F3-A1	100686595	Auxiliary Housing (IP65)	0.250 Kg
SB3		100208657	Safety barrier	
EOL22(ex)		100211529	End of Line	
1.5KE20CA(EOL)	A5Q00015836	100967645	Transient Diode 20V	

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