



## FC18 Controller (Interlocking) Product Manual

- FC1820 controller with 1 line card, max. 252 points
- FC1840 controller with 2 line card, max. 504 points

### Characteristic

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- Multi-language operation menu designed with Windows-like style for fast and easy operation.
- Shortcut key (right key) for popping out operation items of equipment/event.
- Large history storage size for up to 10000 records, first in first out order, all events can be recorded during the operation period.
- LCD backlight Auto-off mode. When no operation or message to display within pre-set time, LCD backlight will be automatically turn off. When there are events / operations, LCD will light up automatically to display events and/or interlock devices.
- 2 channels of programmable input/output (Output: 40mA @24VDC, it can be programmed as general alarm output or general trouble output; Input: dry contact).
- 1 channel of NAC for audible and visible devices (max. 0.5A @24VDC).
- 8 channels of interlocking functions for automatic control and manual operations of control equipments.
- Efficient group programming according to different usage.
- FC1820 controller can connect up to 252 points, FC1840 controller can connect up to 504 points.
- Up to 32 controllers can be networked together with FC1820 and FC1840.
- Controller network bus (FC18-BUS) has a max. distance of 1000m.
- Twisted paired cable is for polarity-free detection bus (FD18-BUS), max. loop distances is up to 2,500m, and max. stub distance is up to 1,500m. (the wiring capacity is between 1.0 to 1.5 mm<sup>2</sup> )
- Three user levels for different operation authority. Each user level is accessed by a pre-defined and changeable password.
- Convenient pluggable terminals with clear marks for field wiring.

- Auto-mapping function to support on commissioning task.
- Detection algorithm can be adjusted from controller according to different environment, to provide high reliability of alarm and reduce false alarm.
- Programming can be done either directly on controller or through computer.
- "Sticker Method" easy for commissioning on site.

## Structure

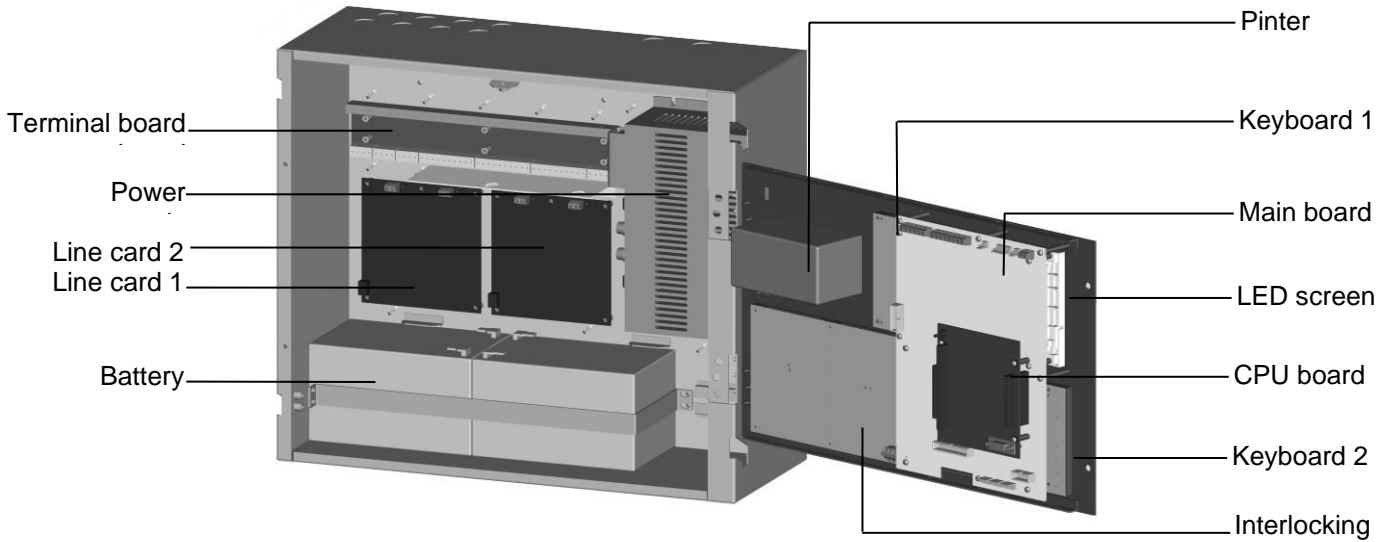


Fig. 1 Internal structure

## Operation Panel

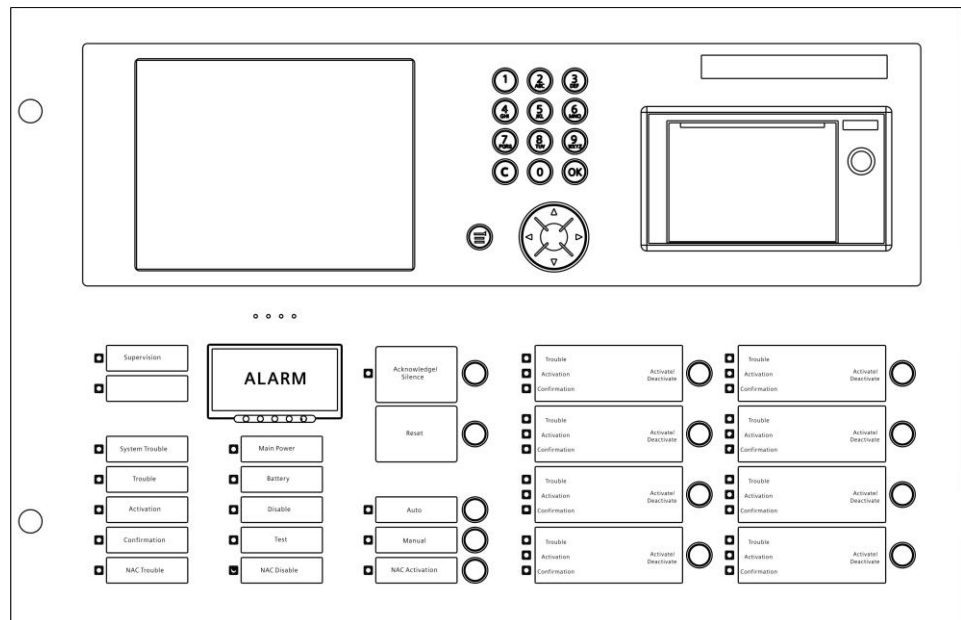


Fig. 2 Front overview

No.	Name
1.	LCD
2.	Printer
3.	Keyboard
4.	Indicators and keys

## Installation

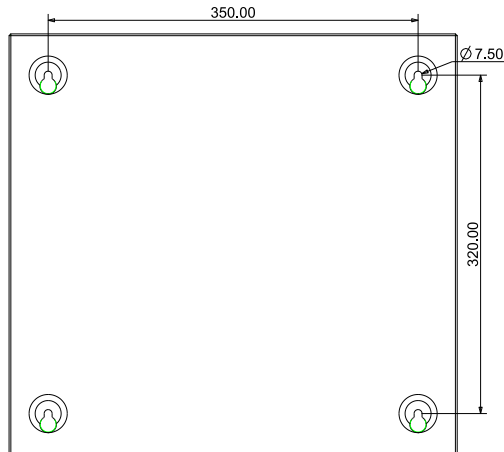
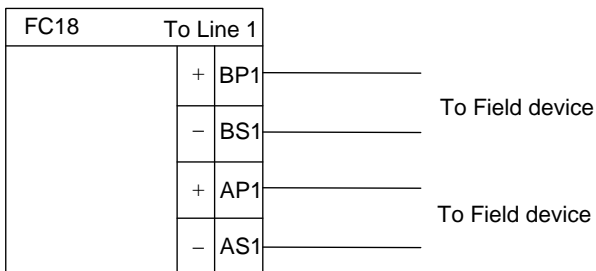


Fig.3 Installation size (in:mm)

Installation must comply with the local regulation!

1. Ensure the wall is dry, clean, flat and firm in which the controller is installed.
2. Chose a proper installation location to make sure the front door can be opened smoothly.
3. Mark the drillings for 4 installation holes on the wall. (Fig. 2-1)
4. Drill the holes, put expansion bolts in and insert the M6 screws.
5. Break the cable entries on the controller.
6. Hang the controller over those screws.
7. Insert cables into the controller.
8. Open the front panel and tighten the screws to fix the controller on the wall.
9. Connect cables to the terminals according to Fig. 4, 5, 6, 7, 8, 9.
10. Install and secure the batteries properly.
11. Close the front panel. Lock it with special tools and store the tools in safe place.

## Connection



**Note: In loop mode, wires from BP1 must end at AP1; wires from BS1 must end at AS1. The connection of field devices (except FDCL181 isolator) is polarity free.**

Fig. 4 Line card connection diagram (the same for Line 2)

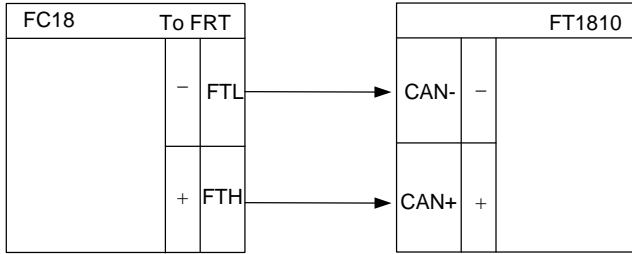
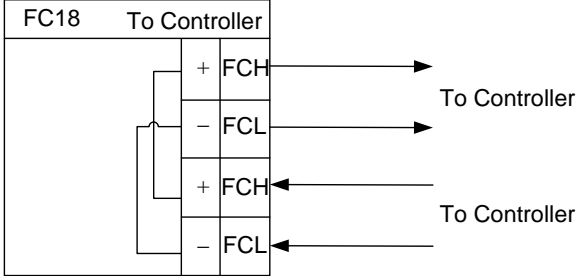


Fig. 5 FRT connection diagram



**Note: Ensure positive and negative connections are properly in place, FC18-Bus is polarity sensitive. Connect a 120Ω resistor as monitoring resistor. It must be connected to the end of the line. ( It can be set by the two-digit Dip-switch on the main board, see “Dip-switch connection configuration” )**

Fig. 6 Network connection diagram

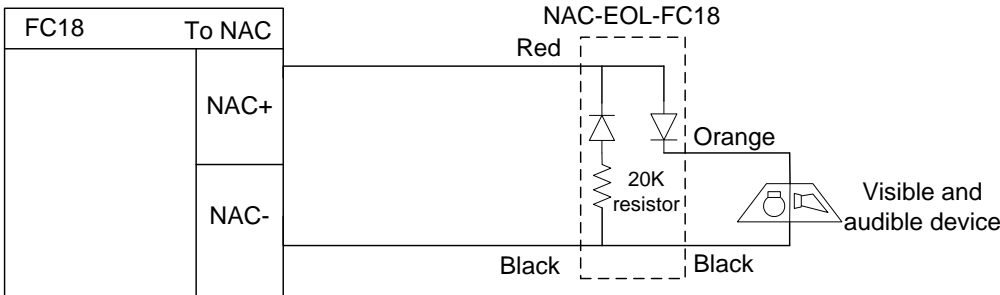


Fig. 7 NAC connection diagram

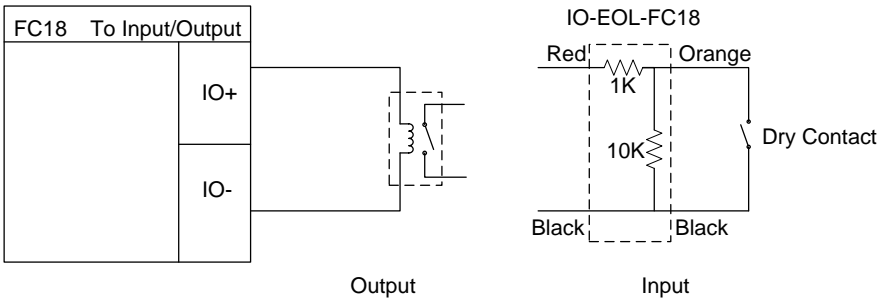


Fig. 8 Main board input/output connection diagram

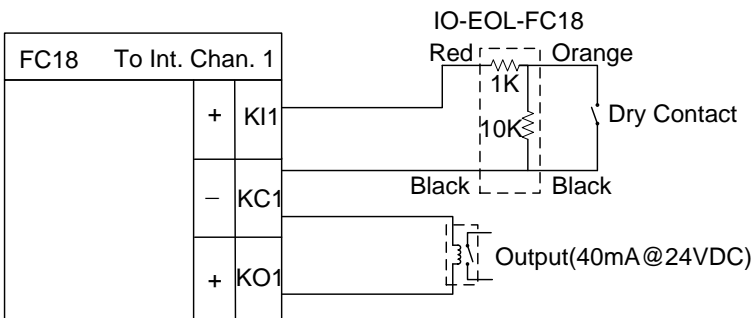


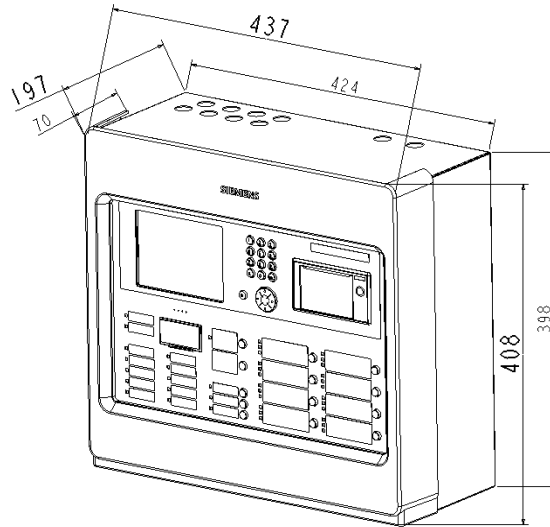
Fig. 9 Interlocking panel connection diagram (the same for other channels)

**Note: the load range of each input is 24VDC, 600 Ω – 1.2k Ω**



## Dimension

In: mm



## Specification

Operating voltage	110 VAC (-15 %...+10 %) / 60 Hz (-10 Hz...+6 Hz) 220 VAC (-15 %...+10 %) / 50 Hz (-5 Hz...+5 Hz)
Operating temperature	0 ... +40 °C
Storage temperature	-10 ... +50 °C
Relative humidity	≤95 % rel.
Protocol	CAN
Terminals	1.0 ... 1.5 mm <sup>2</sup>
Protection category GB4208-93	IP30

## Order Information

Type	Part No.	Designation	Weight
FC1820-A1	100756678	Controller (Interlocking)-252points	10.35Kg
FC1840-A1	100756667	Controller (Interlocking)-504points	10.50Kg

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