

## INSTRUCTION SHEET

# MICROSmart

### FC6A Series Digital I/O Cartridge

This sheet provides brief operating instructions of the MICROSmart programmable controller. For details, see the FC6A Series MICROSmart User's Manual.

### Safety Precautions

Special expertise is required to use the MICROSmart.

- Read this instruction sheet and the user's manual to make sure of correct operation before starting installation, wiring, operation, maintenance, and inspection of the MICROSmart. Keep this instruction sheet where it can be accessed by the end user.
- All MICROSmart modules are manufactured under IDEC's rigorous quality control system, but users must add backup or failsafe provisions to control systems use the MICROSmart in applications where heavy damage or personal injury may be caused if the MICROSmart should fail.
- Install the MICROSmart according to the instructions described in this instruction sheet and the user's manual. Improper installation will result in falling, failure, or malfunction of the MICROSmart.
- Make sure that the operating conditions are as described in the user's manual. If you are uncertain about the specifications, contact IDEC before using the MICROSmart.
- In this instruction sheet, safety precautions are categorized in order of importance from Warning and Caution:

### WARNING

Warning notices are used to emphasize that improper operation may cause severe personal injury or death.

### CAUTION

Caution notices are used where inattention might cause personal injury or damage to equipment.

### WARNING

- Turn off the power to the MICROSmart before starting installation, removal, wiring, maintenance, or inspection on the MICROSmart. Failure to turn off the power may cause damage, electrical shocks or fire hazard.
- Emergency stop and interlocking circuits must be configured outside the MICROSmart. If such a circuit is configured inside the MICROSmart, failure of the MICROSmart may cause disorder of the control system, damage, or accidents.
- SUITABLE FOR USE IN CLASS 1, DIVISION 2, GROUPS A,B,C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.
- Cet appareil convient uniquement à l'emploi dans des zones dangereuses de classe 1, groupes A,B,C et D; ou dans des zones non dangereuses.
- WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.
- Avertissement: risque d'explosion. Ne pas débrancher l'appareil tant que le circuit est sous tension, ou à moins d'être certain que lieu d'utilisation soit exempt de concentrations inflammables.
- THIS EQUIPMENT IS AN OPEN -TYPE DEVICE MEANT TO BE INSTALLED IN AN ENCLOSURE SUITABLE FOR THE ENVIRONMENT THAT IS ONLY ACCESSIBLE WITH THE USE OF A TOOL OR KEY.
- Cet appareil doit être installé dans un boîtier qui est adapté à l'environnement d'utilisation et uniquement accessible avec un outil d'ouverture ou une clé.

### CAUTION

- The MICROSmart is designed for installation in equipment. Do not install the MICROSmart outside of equipment.
- Install the MICROSmart in environments as described in the user's manual. If the MICROSmart is used in places where it is subjected to high-temperature, high-humidity, condensation, corrosive gases, excessive vibrations, or excessive shocks it will result in electrical shocks, fire hazard, or malfunction.
- The environment rating for using the MICROSmart is "Pollution degree 2."
- Prevent metal fragments and pieces of wire from dropping inside the MICROSmart housing. Ingress of such fragments and chips may cause fire hazard, damage, or malfunction.
- Use wires of a proper size to meet voltage and current requirements. Tighten terminal screws to the proper tightening torque of 0.2 N·m.
- Do not disassemble, repair, or modify MICROSmart modules.

### 1 TYPE

Transistor Sink out: FC6A-PTK4  
Transistor Source out: FC6A-PTS4  
DC input: FC6A-PN4

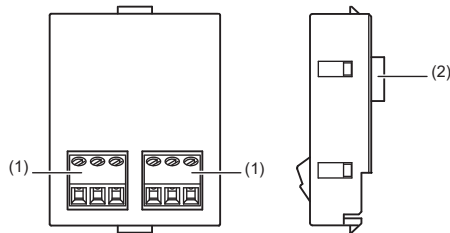
Applicable model  
FC6A Series MICROSmart CPU module  
SmartAXIS Series FT1A Controller TOUCH (Display type)

### 2 Specification

Operating Temperature: -10 to +55°C (no freezing)  
Storage Temperature: -25 to +70°C (no freezing)  
Relative/Storage Humidity: 10 to 95%RH (no condensation),  
Altitude or Air Pressure: 0 to 2,000 m (1,013 to 795hPa) during operation  
0 to 3,000 m (1,013 to 701hPa) during transport,  
Vibration Resistance: 5 to 8.4 Hz half amplitude 3.5 mm, 8.4 to 150 Hz,  
acceleration 9.8 m/s<sup>2</sup> (1 G), X, Y, Z directions, 2 hours,  
Shock Resistance: 147 m/s<sup>2</sup> (15 G), 11 ms, X, Y, Z, 3 axes,  
6 directions, 3 times each  
Installation Location: Inside cabinet (indoor use)  
Maximum Surrounding Air Temperature: 55°C  
Temperature Code: T4

\*See the user's manual for more details on the product specifications.

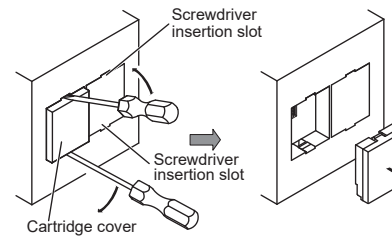
### 3 Parts Description



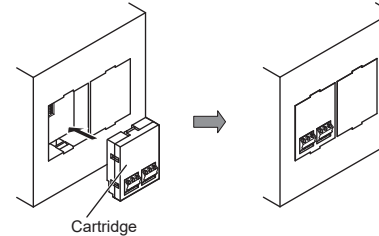
- (1) Terminal  
These terminals connect output devices, input devices or power.
- (2) Connector  
Connects to the cartridge slot 1 or 2 connector on the CPU module.

### 4 Connecting Cartridge

Step 1.  
Insert two flathead screwdrivers into the screwdriver insertion slots in both locations of the unit, and while pushing the tabs of the cartridge cover, remove the cartridge cover straight off of the unit.



Step 2.  
Pay careful attention to the direction of the cartridge and attach it straight to the unit.

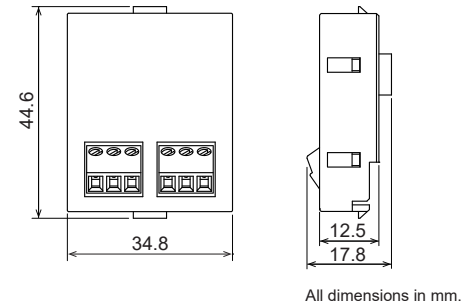


To remove the cartridge, perform the work detailed in step 1.

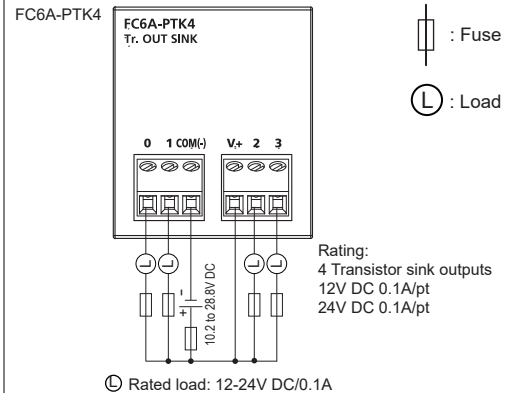
### CAUTION

- Attach or remove the cartridge straight to the unit. If the cartridge is attached or removed when tilted, it may be damaged or cause operating problems. When not using Cartridge, attach the Cartridge cover.
- For UL/cUL, Horizontal mounting only.

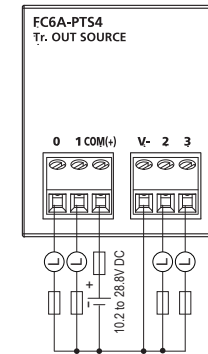
### 5 Dimensions



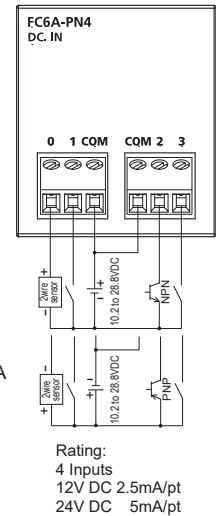
### 6 Wiring



#### FC6A-PTS4



#### FC6A-PN4



### CAUTION

- Use an isolated type or SELV power supply source when power supply voltage less than 30V DC is required to power the terminal.
- For UL/cUL, use transistor outputs under resistive load and Limited energy.
- Use Use minimum 60°C wire copper conductor only.

### 7 Applicable Cable / Recommended Ferrule / Recommended Screwdriver / Tightening Torque

The recommended ferrule is made by Phoenix Contact or Weidmüller. To crimp the ferrules shown below, use a special crimping tool. (CRIMPFOX6 (1212034) or PZ 6 Rote (9014350000))  
To the terminal block, use the recommended screwdriver made by Phoenix Contact or Weidmüller and tighten terminal screws tightening torque.

Applied cable	Recommended ferrule
UL1007/UL2464	AWG24 AI 0,25-6 (3203040), H0,25/10 HBL (9025740000)
	AWG22 AI 0,34-6 (3203053), H0,34/10 TK (9025750000)
	AWG20 AI 0,5-6 (3200687), H0,5/12D W (9019000000)

Screwdriver	Tighten torque
SZS 0,4×2,5 (1205037), SDS 0,4×2,5×75 (9009030000)	0.2 N·m

( ) indicates the Type No. of PHOENIX CONTACT GmbH & Co. KG and Weidmüller Interface GmbH & Co. KG.

### 8 Precaution for Disposal

- Dispose of the FC6A Series MICROSmart as an industrial waste.

EU Authorized Representative : APEM SAS  
55, Avenue Edouard Herriot BP1, 82303 Caussade Cedex, France  
Manufacturer :  
IDEC CORPORATION  
2-6-64, Nishimiyahara, Yodogawa-ku, Osaka, Japan

MICROSmart User's manual can be downloaded from  
<http://www.idec.com/FC6Amanuals>

# IDEC CORPORATION