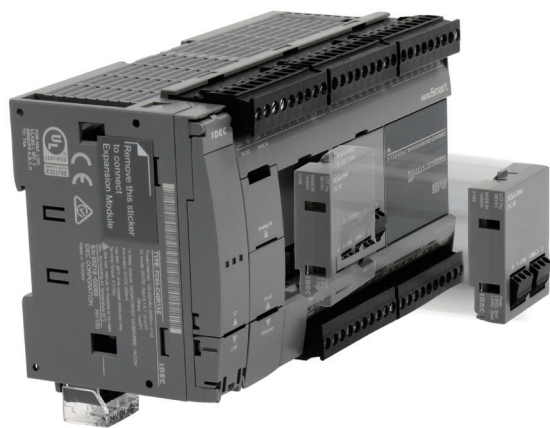


FC6A and FT1A Series Digital I/O Cartridge



PRODUCT DESCRIPTION

The FC6A digital I/O cartridge can easily be installed in the SmartAXIS Touch FT1A-*14 and FC6A base units, providing a space-saving, wire-saving, quick and simple solution. With three types of cartridges available, these cost effective digital I/O cartridges can be added to suit the needs of many applications.

KEY FEATURES

- Space-saving solution
- Three types of cartridges available
- Up to 2 cartridges can be added to SmartAXIS Touch FT1A-*14 or FC6A base units
- Supported by FC6A firmware version 1.30 or later, included in Automation Organizer Ver. 3.60 or later, and FT1A Touch system software Ver. 4.05 or later included in Automation Organizer Ver. 3.50 or later

SPECIFICATIONS/RATINGS

| Type | I/O Points | Part No. |
|-------------------|---|-----------|
| Digital Input | 4-point digital input (4/1 common) | FC6A-PN4 |
| Transistor Output | 4-point transistor sink output (4/1 common) | FC6A-PTK4 |
| | 4-point transistor source output (4/1 common) | FC6A-PTS4 |

Input Cartridge Specifications

| | | |
|--|---|----------------------------|
| Part No. | FC6A-PN4 | |
| Input Points | 4 (4/1 common) | |
| Rated Input Voltage | 12/24V DC sink/source input signal | |
| Input Voltage Range | 0 to 28.8V DC | |
| Rated Input Current | 2.5mA/point (12V DC) 5mA/point (24V DC) | |
| Input Impedance | 4.4kΩ | |
| ON/OFF Level | OFF Voltage | 5V maximum |
| | ON Voltage | 8.5V minimum |
| | OFF Current | 0.9mA maximum |
| | ON Current | 1.7mA minimum (at 8.5V DC) |
| Input Delay Time (24V DC) | Turn ON: 0.5ms Turn OFF: 0.5ms | |
| Isolation | Between input terminals: Not isolated Internal circuit: Photocoupler-isolated | |
| External Load for I/O Interconnection | Not needed | |
| Signal Determination Method | Static | |
| Effect of Improper Input Connection | Both sink and source input signals can be connected. If input exceeding the rated value is applied, permanent damage may be caused. | |
| Cable Length | 3m in compliance with electromagnetic immunity | |
| Applicable Ferrule | 1-wire: Al 0.5-6 (Phoenix Contact) | |
| Internal Current Draw | All Inputs ON | 30mA (3.3V DC) 0mA (5V DC) |
| | All Inputs OFF | 25mA (3.3V DC) 0mA (5V DC) |
| Internal Power Consumption (at 24V DC while all inputs ON) | 0.10W | |
| Weight (approx.) | 15g | |

SPECIFICATIONS (CON'T)

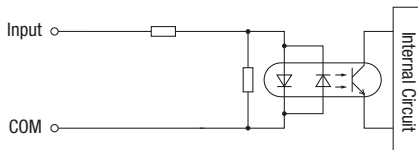
Output Cartridge Specifications

| Part No. | FC6A-PTK4 | FC6A-PTS4 |
|---|---|---|
| Output Points | 4 transistor sink output (4/1 common) | 4 transistor source output (4/1 common) |
| Rated Load Voltage | 12/24V DC | |
| Operating Load Voltage Range | 10.2 to 28.8V DC | |
| Maximum Load Current | 1 point | 0.1A per point |
| | 1 common | 0.4A per common |
| Voltage Drop (ON Voltage) | 1V maximum (voltage between COM and output terminals when output is on) | |
| Inrush Current | 1A maximum | |
| Leakage Current | 0.1mA maximum | |
| Clamping Voltage | Approx. 50V | |
| Maximum Lamp Load | 2.4W | |
| Inductive Load | L/R = 10ms (28.8V DC 1Hz) | |
| External Current Draw | 100 mA maximum, 24V DC (power voltage at the +V terminal) | 100 mA maximum, 24V DC (power voltage at the -V terminal) |
| Overcurrent Protection | No | |
| Output Delay | Turn ON Time 450 μ s maximum Turn OFF Time 450 μ s maximum | |
| Isolation | Between output terminals: Not isolated Between output terminal and internal circuit: Photocoupler-isolated | |
| Applicable Ferrule | 1-wire: AI 0.5-6 (Phoenix Contact) | |
| Internal Current Draw | All Outputs ON | 35mA (3.3V DC) 0mA (5V DC) |
| | All Outputs OFF | 30mA (3.3V DC) 0mA (5V DC) |
| Internal Power Consumption (at 24V DC while all outputs ON) | 0.10W | |
| Weight (approx.) | 15g | |

CIRCUIT DIAGRAMS

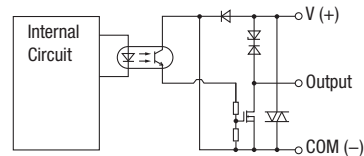
Input Internal Circuit

FC6A-PN4

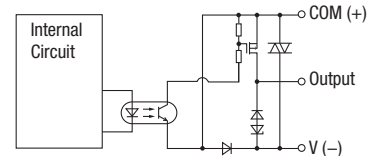


Output Internal Circuit

FC6A-PTK4



FC6A-PTS4



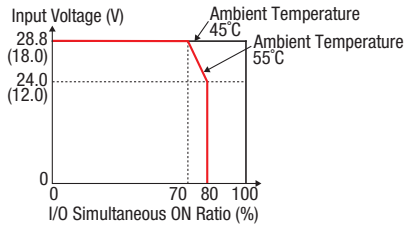
TEMPERATURE DERATING CURVES

Temperature derating curves when a digital I/O cartridge is installed

All-in-One FC6A CPU Modules

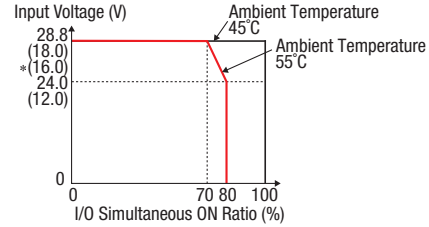
Input (with cartridge)

FC6A-C16K1CE
 FC6A-C24K1CE
 FC6A-C40K1CE
 FC6A-C40K1DE
 FC6A-C40K1CEJ
 FC6A-C40K1DEJ



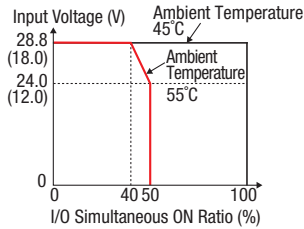
Output (with cartridge)

FC6A-C16K1CE
 FC6A-C24K1CE
 FC6A-C40K1CE
 FC6A-C40K1DE
 FC6A-C40K1CEJ
 FC6A-C40K1DEJ



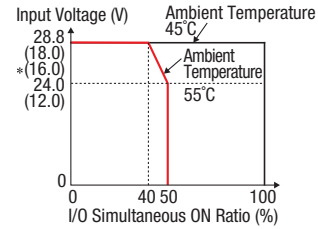
Input (with cartridge)

FC6A-C24P1CE
 FC6A-C40P1CE
 FC6A-C40P1DE
 FC6A-C40P1CEJ
 FC6A-C40P1DEJ



Output (with cartridge)

FC6A-C24P1CE
 FC6A-C40P1CE
 FC6A-C40P1DE
 FC6A-C40P1CEJ
 FC6A-C40P1DEJ

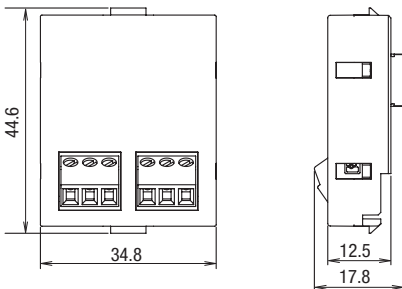


- Values in () are for 12V DC model.
- Values shown in *() are for CAN J1939 all-in-one model.

FT1A Touch (FT1A-*14KA/FT1A-*14SA)

Temperature derating curve is the same with or without digital I/O cartridge.

DIMENSIONS



All dimensions in mm.

