# OpenNet Controller


FC3A-CP2K
FC3A-CP2S

## Electrical Specifications

| | |
|---|---|
| **FC3A-CP2K, -CP2KM*** | High-speed counter sink output |
| **FC3A-CP2S, -CP2SM*** | High-speed counter source output |
| **Rated Voltage** | 24V DC (19-30V DC, including ripple) |
| **Maximum Input Current** | 1.5A at 24V DC |
| **Reverse Polarity Protection** | Prevents damage if incorrectly wired. |
| **Operating Temperature** | 0 to +55°C |
| **Storage Temperature** | -25 to +70°C |
| **Relative Humidity** | 30 to 95% (non-condensing) |
| **Vibration Resistance** | 10 to 57 Hz, amplitude 0.075mm<br>57 to 150 Hz 9.8 m/sec$^2$<br>10 sweep cycles/axis (IEC 1131) |
| **Shock Resistance** | 147 m/sec$^2$, 11 ms<br>3 shocks each in 3 axes (IEC 1131) |
| **Dielectric Strength** | Between power terminal and FG: 500V AC, 1 min<br>Between I/O terminal and FG: 1500V AC, 1 min |
| **Ground** | Grounding resistance 100Ω (maximum) |
| **Mounting Style** | 35mm DIN rail |

## Hardware Features

- Digital I/O
  - 8, 16, and 32 point cards
  - 224 inputs and outputs, 480 with expansion power supply
- Analog I/O
  - up to 42 analog inputs or 14 analog outputs
  - 0-5V, 0-10V, ±5V, ±10V, 4-20mA
- Built-In Communications Ports
  - 2 RS232 (programming port, ASCII, printer and modem ready)
  - 1 RS485 (programming port and data link)
- Build-in High-Speed Counter
  - 1 channel, 10kHz, 16-bit resolution
- Memory
  - 16K words (8K steps) user program capacity
  - Flash miniature memory card slot (FC3A-CP2KM/SM* only)
- Realtime Calendar/Clock, Y2K compliant
- Password Protection
- PID Algorithm

## ONC Capabilities

•Networking
ONC capable of communicating with various standard networks:
- DeviceNet
- INTERBUS
- LonWorks

•Programming Software; WindLDR® 3.0
- Programs all IDEC PLCs
- Windows-based (compatible with Windows 3.10, 3.11, Win 95 or Win 98)

•Programming Instructions
- Transmit/Receive
- Built-in X/Y Conversion
- Sub-Routine Call/Return for Modular Programming
- Square Root
- 16- and 32-bit Math, Add, Sub, Mult, Div
- Data Conversion to/from Dec, Hex, BCD, ASCII
- Block Move
- Summation
- Averaging
- Day of Week Program Scheduling

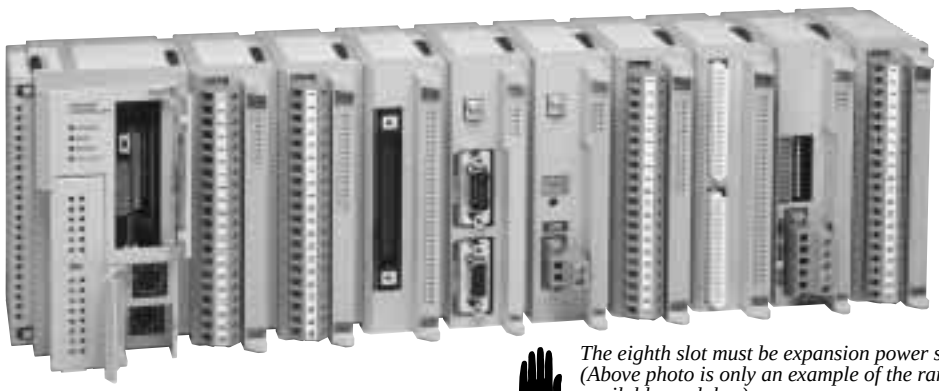
•Built-in Hayes "AT" command set for modem dialup/pager applications

*FC3A-CP2KM/SM will be available soon

For more information call IDEC Corporation (800) 262-IDEC 1175 Elko Drive, Sunnyvale CA 94089
Western Canada: (888) 578-9988 www.idec.com Eastern Canada: (888) 317-IDEC


*Powered by IDEC's PS5R Series 50W Power Supply*

| | | PS5R Power Supply |
|---|---|---|
| PS5R-D24 | **Wattage & Current Ratings** | 50W, 2.1A |
| | **Rating** | UL 508 listed |
| | **Mounting** | DIN rail mountable |
| | | **Standard ONC CPU** |
| General ONC Specifications | **Available Instructions** | 37 basic, 65 advanced (PID, square root, subroutine calls, etc.) |
| | **User Program Capacity** | 16K words flash memory |
| | **Memory (Miniature Card)** | 2, 4 and 8MB; 5V type |
| | **Average Scan Time** | 1 ms or greater |
| | **Input** | 224 points (I0-I277) |
| | **Output** | 224 points (Q0-Q277) |
| | **Total I/O Points** | Using expansion power supply: 480 I/O points |
| | **Internal Relay** | 2048 (M0-M2557) |
| | **Special Internal Relay** | 192 (M8000-M8237) |
| | **Shift Register** | 256 (R0-R255) |
| | **Timer** | 256 (T0-T255; 1-sec, 100-msec, 10-msec, 1-msec) |
| | **Counter** | 256 (C0-C255; adding, dual pulse reversible, up/down selection reversible) |
| | **Data Register** | 8000 (D0-D7999) |
| | **Link Register** | 256 master (L1000 - L1317),<br>168 slave (L100 - L127, L200 - L227, ....., L700 - L727) |
| | **Remote I/O** | 512 points |
| | **Real-Time Calendar/Clock Runtime** | Yes (Y2K complaint) |
| | **Program Protection** | Yes (password protected) |
| | **External Run/Stop Control** | Yes |
| | **Power Failure Protection** | Yes |
| | **Self-Diagnostics** | Yes |
| | **Auto Start Function** | Yes |



*The eighth slot must be expansion power supply module. (Above photo is only an example of the range of available modules.)*

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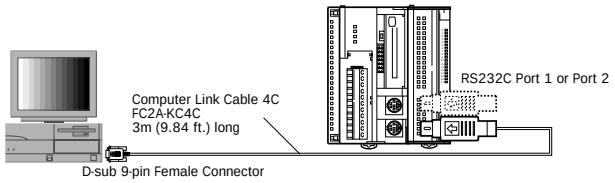
**PC Communication**

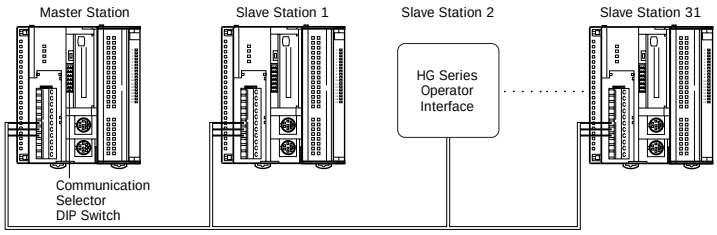
The ONC is programmed by our intuitive WindLDR™ 3.0 software
- -use RS232 or RS485 ports
- -upload, download and monitor programs




*For RS485 programming, use FC2A-KC6C cable.*

**Data Link - Superiority in Networking**

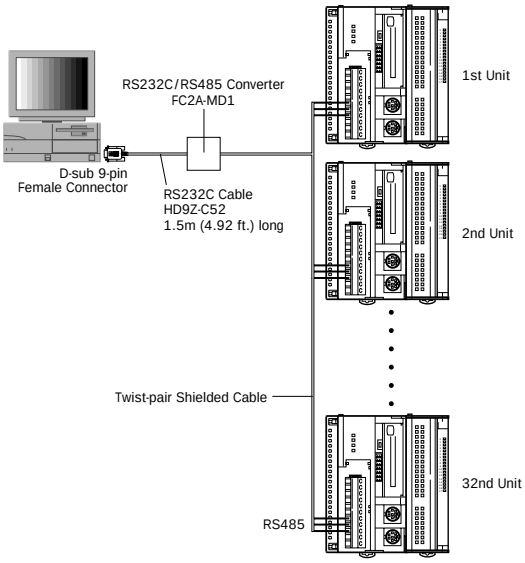
Connect up to 32 ONC, Micro3, FA Series PLCs or the HG Series operator interface on the data link network.




**Computer Link - Power & Versatility**

Connect 32 ONCs on a 1:N computer link system.

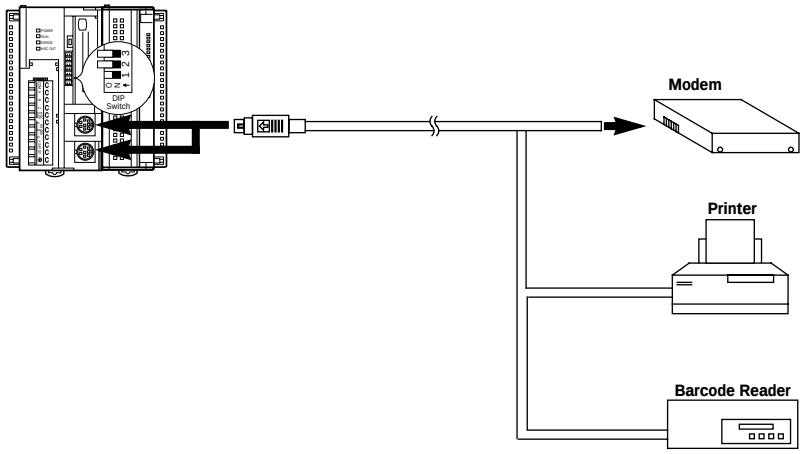
Upload, download, monitor, and update data.




**Communication Flexibility**

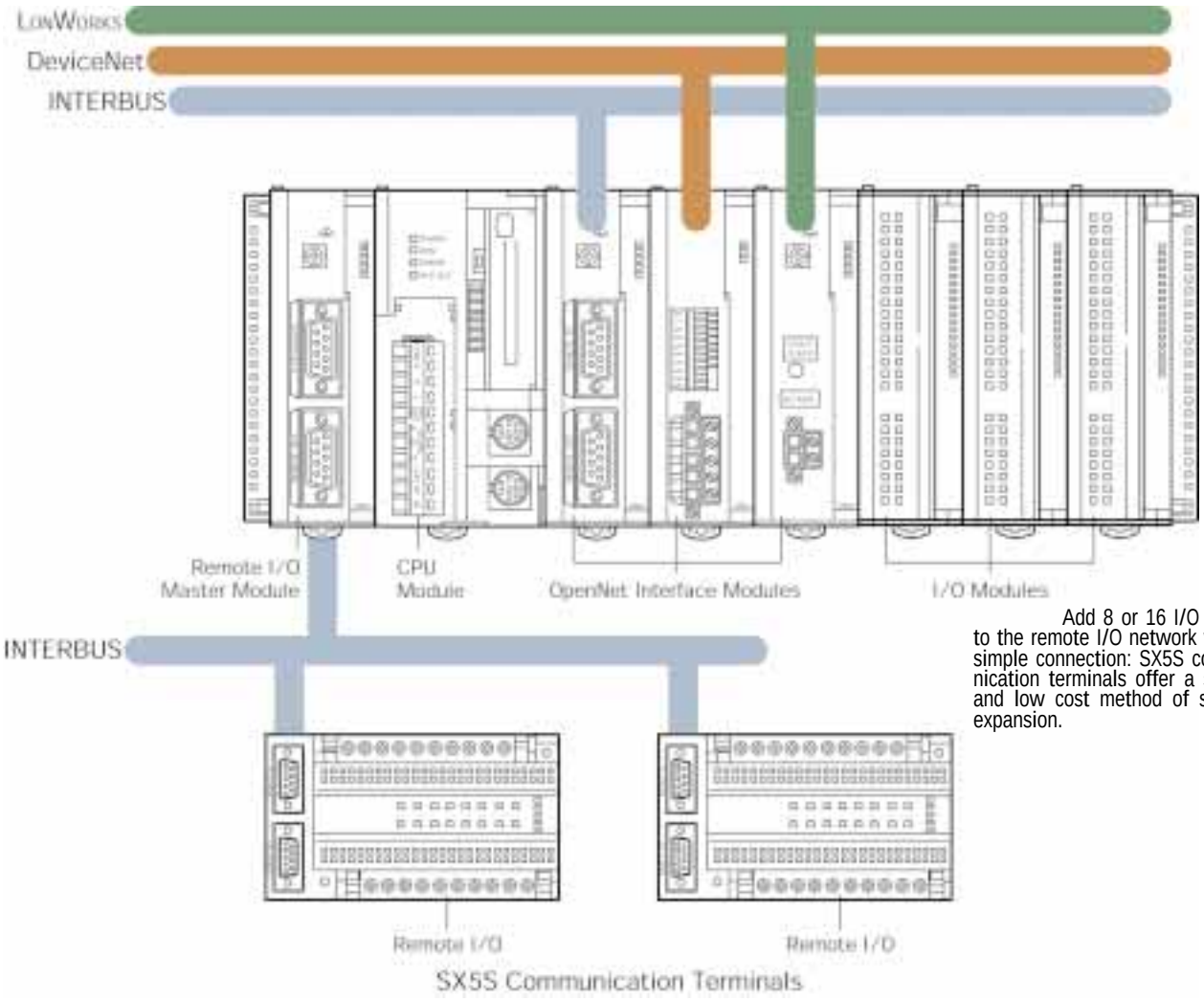
Easy connections to any R232C equipment through the user defined RS232C port 1 or 2.

Built-in Hayes "AT" command set for direct modem dialup and pager applications.



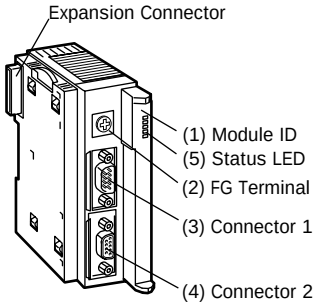
# Network Communication System

The ONC offers versatility and power with the unique capability to inferface with standard networks such as INTERBUS, DeviceNet and LONWORKS.

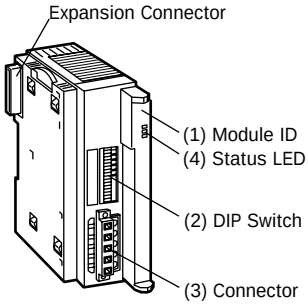



Add 8 or 16 I/O points to the remote I/O network with a simple connection: SX5S communication terminals offer a simple and low cost method of system expansion.

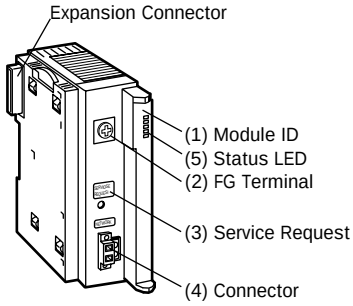
**OpenNet Interface Modules**




**INTERBUS**




**DeviceNet**




**LONWORKS**

# Analog Input and Output Modules

Analog Output Module
FC3A-DA1221

## Key Features

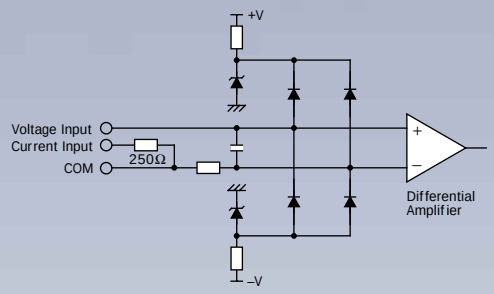
- One card handles 5 different signal types, [±5V, ±10V, 0-5V, 0-10V, or 4-20mA], switch selectable
- Input module has 6 inputs per card, 7 cards per CPU, 42 analog input points maximum
- Output module has 2 outputs per card, 7 cards per CPU, 14 analog output points maximum
- 12-bit resolution, 0-4000 counts, count range divides evenly
- Fast input conversion, 3ms + 1 scan time
- I/O error ±0.6% full scale @25°C
- Convenient input termination, Phoenix Contact type connector

## General Specifications

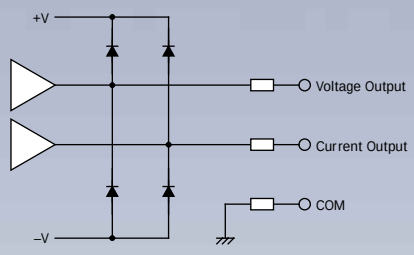
| Analog Type | Input | Output |
|---|---|---|
| Point Per Card | 6 Points | 2 Points |
| Part Number | FC3A-AD1261 | FC3A-DA1221 |
| Connector Type | Phoenix Contact | Phoenix Contact |
| Input Signal | 0-10V DC, ±10V DC, 0-5V DC, ±5V DC, 4-20mA | 0-10V DC, ±10V DC, 0-5V DC, ±5V DC, 4-20mA |
| Resolution | 12 bits | 12 bits |
| Range | 0-4000 counts | 0-4000 counts |
| Input Error | ±0.6% of full scale @ 25°C | NA |
| Output Error | NA | ±0.6% of full scale @ 25°C |
| Conversion Time | 3ms per point | NA |
| Settling Time | NA | 3ms |
| Input Impedance | Voltage: 1 MΩ minimum Current: 250Ω | NA |
| Output Load Impedance | NA | Voltage=2 kΩ minimum (Current=250Ω, 300Ω max.) |
| Internal Current Draw | 120mA@24V DC | 120mA@24V DC |

## Type of Protection

Analog Input Module




Analog Output Module

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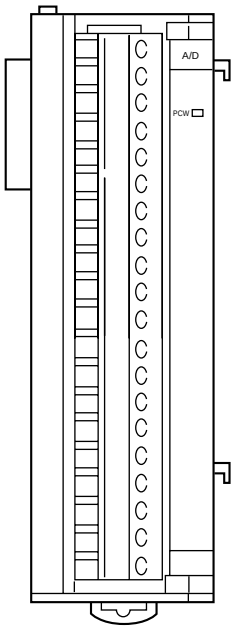
### FC3A-AD1261 Analog Input Module Terminal Arrangement

6-Channel - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)

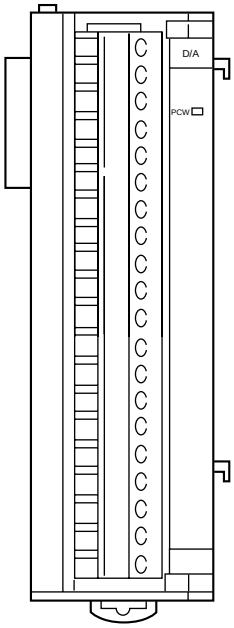



| Terminal No. | Channel | Name |
|---|---|---|
| 1 | Channel 0 | +V (voltage) |
| 2 | | +I (current) |
| 3 | | COM (-V, -I) |
| 4 | Channel 1 | +V (voltage) |
| 5 | | +I (current) |
| 6 | | COM (-V, -I) |
| 7 | Channel 2 | +V (voltage) |
| 8 | | +I (current) |
| 9 | | COM (-V, -I) |
| 10 | Channel 3 | +V (voltage) |
| 11 | | +I (current) |
| 12 | | COM (-V, -I) |
| 13 | Channel 4 | +V (voltage) |
| 14 | | +I (current) |
| 15 | | COM (-V, -I) |
| 16 | Channel 5 | +V (voltage) |
| 17 | | +I (current) |
| 18 | | COM (-V, -I) |
| 19 | — | NC |
| 20 | — | NC |

### FC3A-DA1221 Analog Output Module Terminal Arrangement

2-Channel - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)




| Terminal No. | Channel | Rotary Switch Position | Name |
|---|---|---|---|
| 1 | Channel 0 | 0 | Voltage Output (0 to 10V) |
| 2 | | | COM (GND) |
| 3 | | 1 | Voltage Output (±10V) |
| 4 | | | COM (GND) |
| 5 | | 2 | Voltage Output (0 to 5V) |
| 6 | | | COM (GND) |
| 7 | | 3 | Voltage Output (±5V) |
| 8 | | | COM (GND) |
| 9 | | 4 | Current Output (4 to 20mA) |
| 10 | | | COM (GND) |
| 11 | Channel 1 | 0 | Voltage Output (0 to 10V) |
| 12 | | | COM (GND) |
| 13 | | 1 | Voltage Output (±10V) |
| 14 | | | COM (GND) |
| 15 | | 2 | Voltage Output (0 to 5V) |
| 16 | | | COM (GND) |
| 17 | | 3 | Voltage Output (±5V) |
| 18 | | | COM (GND) |
| 19 | | 4 | Current Output (4 to 20mA) |
| 20 | | | COM (GND) |

# 16-Point DC Input Modules

DC Input Module
FC3A-N16B1
FC3A-N16B3

## Key Features

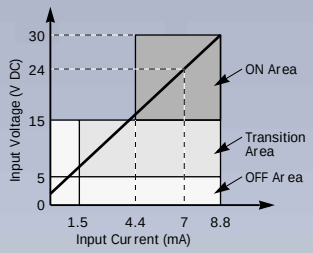
- One card handles sink (NPN) or source (PNP) type input signals
- 16 points per card, 7 cards local, 8 cards expansion, 15 cards max. per CPU
- 19-30V DC input voltage range
- Software selectable input filtering, 0-32 msec
- High-speed catch inputs, first 8 points user definable, pulse detection within 20-120µsec range
- Termination connector
  -FC3A-N16B1 - removable Phoenix Contact type
  -FC3A-N16B3 - removable Nylon type

## General Specifications

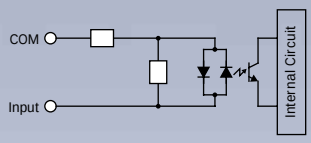
| Input Type | DC Sink/Source | |
|---|---|---|
| **Part Number** | FC3A-N16B1 | FC3A-N16B3 |
| **Connector Type** | Phoenix Contact | Nylon |
| **Input Voltage Range** | 19-30V DC | 19-30V DC |
| **Rated Input Voltage** | 24V DC | 24V DC |
| **Current Per Point** | 7mA | 7mA |
| **Internal Current - all inputs ON** | 40mA | 40mA |
| **Input Impedance** | 3.4kΩ | 3.4kΩ |
| **On/Off Voltage** | 15/5V DC | 15/5V DC |
| **On/Off Time** | 20/120µs | 20/120µs |

## Input Operating Range

The input operating range of the Type 1 (EN61131) input module is shown below:




## Input Internal Circuit

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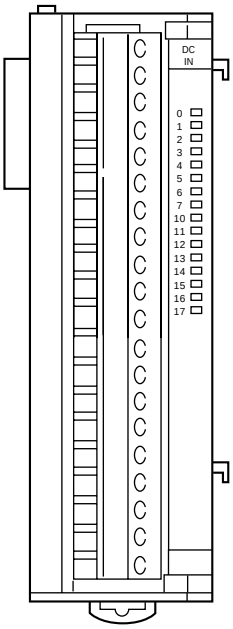
### FC3A-N16B1 Input Module Terminal Arrangement

16-Point DC - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)

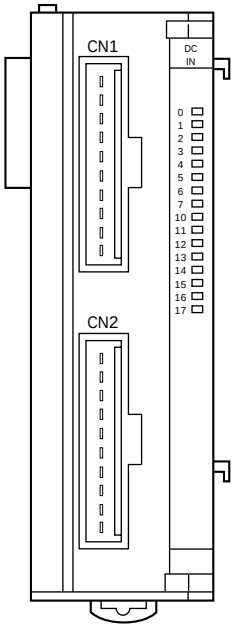



| Terminal No. | Name |
|---|---|
| 1 | COM |
| 2 | COM |
| 3 | I0 |
| 4 | I1 |
| 5 | I2 |
| 6 | I3 |
| 7 | I4 |
| 8 | I5 |
| 9 | I6 |
| 10 | I7 |
| 11 | COM |
| 12 | COM |
| 13 | I10 |
| 14 | I11 |
| 15 | I12 |
| 16 | I13 |
| 17 | I14 |
| 18 | I15 |
| 19 | I16 |
| 20 | I17 |

### FC3A-N16B3 Input Module Terminal Arrangement

16-Point DC - Nylon Connector Type

Applicable Connectors: VHR-10N (J.S.T. Mfg.)
SVH-21T-P1.1 (J.S.T. Mfg.)




| Terminal No. | CN1 |
|---|---|
| 1 | COM |
| 2 | COM |
| 3 | I0 |
| 4 | I1 |
| 5 | I2 |
| 6 | I3 |
| 7 | I4 |
| 8 | I5 |
| 9 | I6 |
| 10 | I7 |

| Terminal No. | CN2 |
|---|---|
| 1 | COM |
| 2 | COM |
| 3 | I10 |
| 4 | I11 |
| 5 | I12 |
| 6 | I13 |
| 7 | I14 |
| 8 | I15 |
| 9 | I16 |
| 10 | I17 |

# 32-Point DC Input Modules

DC Input Module
FC3A-N32B4
FC3A-N32B5

## Key Features

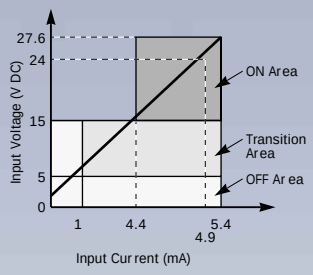
- One card handles sink (NPN) or source (PNP) type input signals
- 32 points per card, 7 cards local, 8 cards expansion, 15 cards max. per CPU
- 20-28V DC input voltage range
- Software selectable input filtering, 0-32 msec
- High-speed catch inputs, first 8 points user definable, pulse detection within 20-120µsec range
- Termination connector
  -FC3A-N32B4 - removable Nylon type
  -FC3A-N32B5 - removable Fujitsu type

## General Specifications

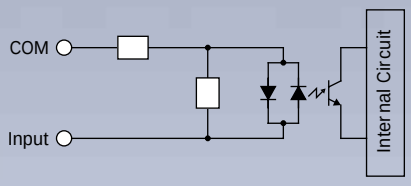
| Input Type | DC Sink/Source | |
|---|---|---|
| **Part Number** | FC3A-N32B4 | FC3A-N32B5 |
| **Connector Type** | Nylon | Fujitsu |
| **Input Voltage Range** | 20-28V DC | 20-28V DC |
| **Rated Input Voltage** | 24V DC | 24V DC |
| **Current Per Point** | 5mA | 5mA |
| **Internal Current -all inputs ON** | 50mA | 50mA |
| **Input Impedance** | 4.7kΩ | 4.7kΩ |
| **On/Off Voltage** | 15/5V DC | 15/5V DC |
| **On/Off Time** | 20/120µs | 20/120µs |

## Input Operating Range

The input operating range of the Type 1 (EN61131) input module is shown below:




## Input Internal Circuit

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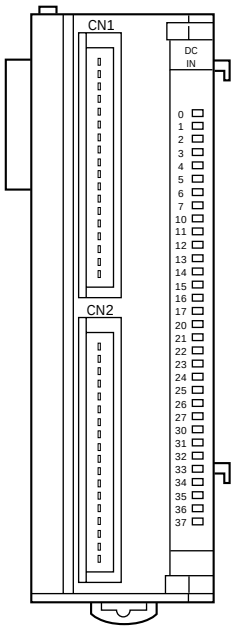
### FC3A-N32B4 Input Module Terminal Arrangement

32-Point DC - Nylon Connector Type

Applicable Connectors: H18-SHF-AA (J.S.T. Mfg.)
SHF-001T-0.8BS (J.S.T. Mfg.)

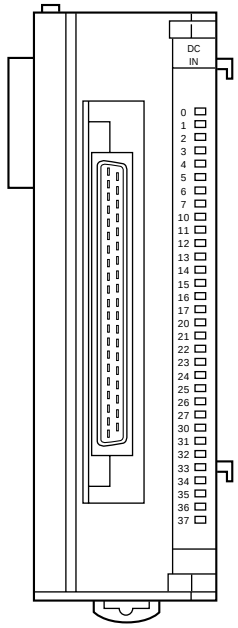



| Terminal No. | CN1 | CN2 |
|---|---|---|
| 18 | I0 | I20 |
| 17 | I1 | I21 |
| 16 | I2 | I22 |
| 15 | I3 | I23 |
| 14 | I4 | I24 |
| 13 | I5 | I25 |
| 12 | I6 | I26 |
| 11 | I7 | I27 |
| 10 | I10 | I30 |
| 9 | I11 | I31 |
| 8 | I12 | I32 |
| 7 | I13 | I33 |
| 6 | I14 | I34 |
| 5 | I15 | I35 |
| 4 | I16 | I36 |
| 3 | I17 | I37 |
| 2 | COM | COM |
| 1 | COM | COM |

### FC3A-N32B5 Input Module Terminal Arrangement

32-Point DC - Fujitsu Connector Type

Applicable Connector: FCN-367J040-AU (Fujitsu)




| Terminal No. | Name |
|---|---|
| B20 | I0 |
| B19 | I1 |
| B18 | I2 |
| B17 | I3 |
| B16 | I4 |
| B15 | I5 |
| B14 | I6 |
| B13 | I7 |
| B12 | I10 |
| B11 | I11 |
| B10 | I12 |
| B9 | I13 |
| B8 | I14 |
| B7 | I15 |
| B6 | I16 |
| B5 | I17 |
| B4 | NC |
| B3 | NC |
| B2 | COM |
| B1 | COM |

| Terminal No. | Name |
|---|---|
| A20 | I20 |
| A19 | I21 |
| A18 | I22 |
| A17 | I23 |
| A16 | I24 |
| A15 | I25 |
| A14 | I26 |
| A13 | I27 |
| A12 | I30 |
| A11 | I31 |
| A10 | I32 |
| A9 | I33 |
| A8 | I34 |
| A7 | I35 |
| A6 | I36 |
| A5 | I37 |
| A4 | NC |
| A3 | NC |
| A2 | NC |
| A1 | NC |

# 8-Point AC Input Module

AC Input Module
FC3A-N08A11

## Key Features

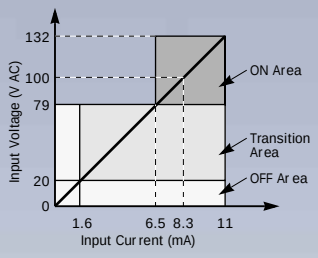
- 8 points per card, 7 cards local, 8 cards expansion, 15 cards max. per CPU
- 100-120V AC rated input voltage
- 85-132V AC input voltage range
- On/off detection set at 20ms
- Convenient termination connector, removable Phoenix Contact type

## General Specifications

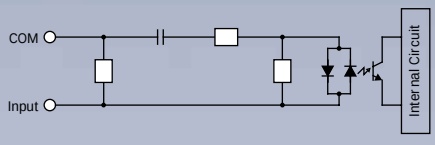
| Input Type | AC |
|---|---|
| Part Number | FC3A-N08A11 |
| Connector Type | Phoenix Contact |
| Input Voltage Range | 85-132V AC |
| Rated Input Voltage | 100-120V AC |
| Current Per Point | 8mA |
| Internal Current - all inputs ON | 30mA |
| Input Impedance | 12 kΩ (60Hz) |
| On/Off Voltage | 79/20V AC |
| On/Off Time | 20ms |

## Input Operating Range

The input operating range of the Type 1 (EN61131) input module is shown below:




## Input Internal Circuit

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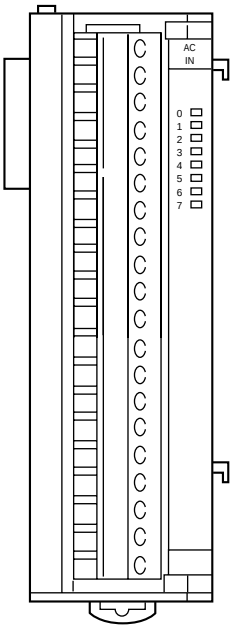
**FC3A-N08A11 Input Module Terminal Arrangement**

8-Point AC - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)




| Terminal No. | Name |
|---|---|
| 1 | COM0 |
| 2 | I0 |
| 3 | COM1 |
| 4 | I1 |
| 5 | COM2 |
| 6 | I2 |
| 7 | COM3 |
| 8 | I3 |
| 9 | COM4 |
| 10 | I4 |
| 11 | COM5 |
| 12 | I5 |
| 13 | COM6 |
| 14 | I6 |
| 15 | COM7 |
| 16 | I7 |
| 17 | NC |
| 18 | NC |
| 19 | NC |
| 20 | NC |

# 16-Point Relay Output Modules

Relay Output Module
FC3A-R161
FC3A-R162

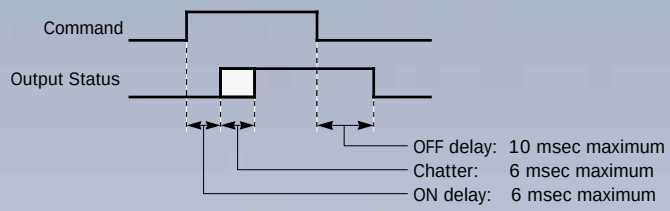
## Key Features

- 16 points per card, 4 points per common, 15 cards max. per CPU
- Outputs rated 240V AC/2A or 24V DC/2A
- Turn On/Off delay 6-10ms
- 20,000,000 operations per relay minimum
- Termination connector
  -FC3A-R161 - removable Phoenix Contact type
  -FC3A-R162 - removable Nylon type

## General Specifications

| Output Type | Relay Output | |
|---|---|---|
| Part Number | FC3A-R161 | FC3A-R162 |
| Connector Type | Phoenix Contact | Nylon |
| Rated Output Voltage | 240V AC/24V DC | 240V AC/24V DC |
| Rated Current Per Point | 2A | 2A |
| Internal Current - all inputs ON | 170mA | 170mA |
| On/Off Time | 6/10ms | 6/10ms |

## Output Delay

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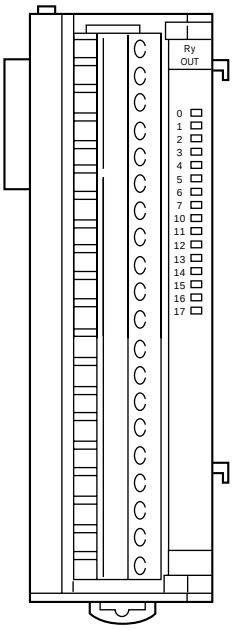
### FC3A-R161 Output Module Terminal Arrangement

16-Point Relay - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)

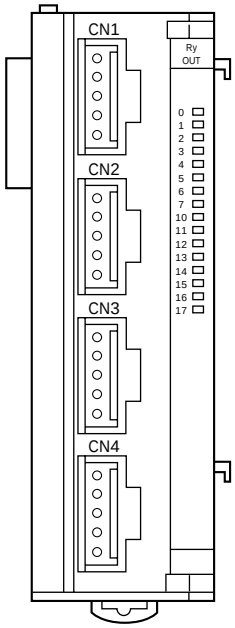



| Terminal No. | Name |
|---|---|
| 1 | COM0 |
| 2 | Q0 |
| 3 | Q1 |
| 4 | Q2 |
| 5 | Q3 |
| 6 | COM1 |
| 7 | Q4 |
| 8 | Q5 |
| 9 | Q6 |
| 10 | Q7 |
| 11 | COM2 |
| 12 | Q10 |
| 13 | Q11 |
| 14 | Q12 |
| 15 | Q13 |
| 16 | COM3 |
| 17 | Q14 |
| 18 | Q15 |
| 19 | Q16 |
| 20 | Q17 |

### FC3A-R162 Output Module Terminal Arrangement

16-Point Relay - Nylon Connector Type

Applicable Connectors: VHR-5N (J.S.T. Mfg.)
SVH-21T-P1.1 (J.S.T. Mfg.)



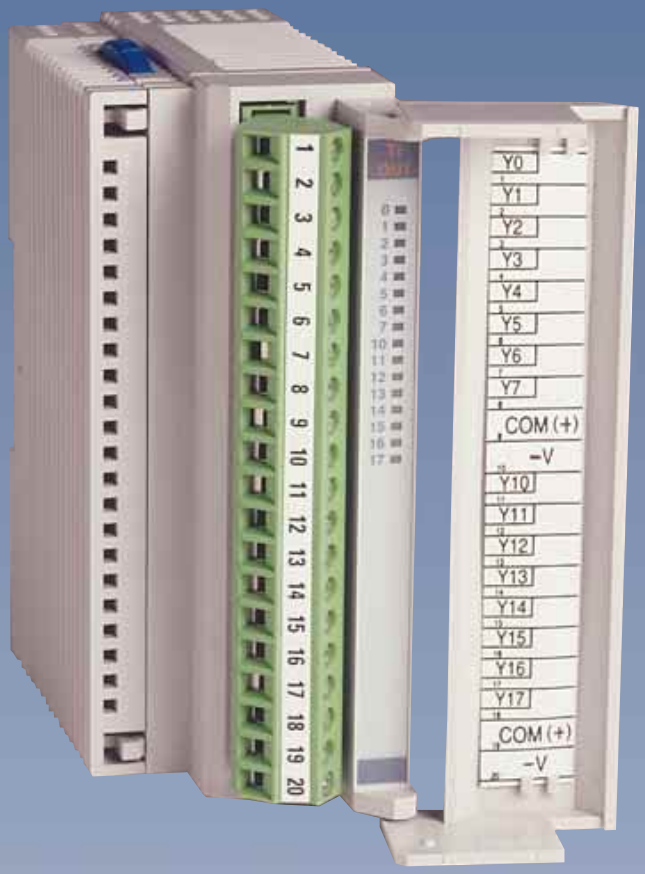

| Terminal No. | CN1 |
|---|---|
| 1 | COM0 |
| 2 | Q0 |
| 3 | Q1 |
| 4 | Q2 |
| 5 | Q3 |

| Terminal No. | CN3 |
|---|---|
| 1 | COM2 |
| 2 | Q10 |
| 3 | Q11 |
| 4 | Q12 |
| 5 | Q13 |

| Terminal No. | CN2 |
|---|---|
| 1 | COM1 |
| 2 | Q4 |
| 3 | Q5 |
| 4 | Q6 |
| 5 | Q7 |

| Terminal No. | CN1 |
|---|---|
| 1 | COM3 |
| 2 | Q14 |
| 3 | Q15 |
| 4 | Q16 |
| 5 | Q17 |

# 16-Point DC Sink Output Modules




DC Sink Output Module
FC3A-T16K1

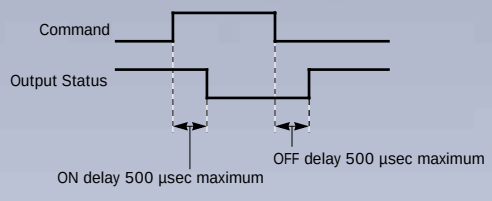
## Key Features

- 16 transistor sink outputs per card, 15 cards max. per CPU
- Outputs rated 19-30V DC/0.5A
- Turn On/Off delay 500µsec max.
- Opto-isolated outputs
- Termination connector
  -FC3A-T16K1 - removable Phoenix Contact type
  -FC3A-T16K3 - removable Nylon type

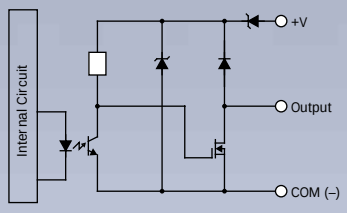
## General Specifications

| Output Type | DC Sink | |
|---|---|---|
| **Part Number** | FC3A-T16K1 | FC3A-T16K3 |
| **Connector Type** | Phoenix Contact | Nylon |
| **Rated Output Voltage** | 19-30V DC | 19-30V DC |
| **Rated Current Per Point** | 500mA@ 24V DC | 500mA@ 24V DC |
| **Internal Current - all inputs ON** | 60mA | 60mA |
| **On/Off Time** | 500/500µs | 500/500µs |

## Output Delay




## Output Internal Circuit

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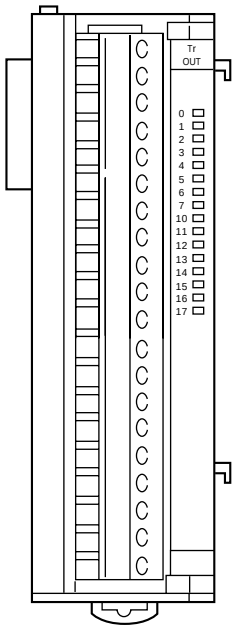
### FC3A-T16K1 Sink Output Module Terminal Arrangement

16-Point DC - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)

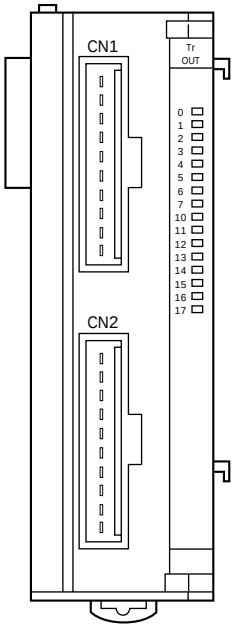



| Terminal No. | Name |
|---|---|
| 1 | Q0 |
| 2 | Q1 |
| 3 | Q2 |
| 4 | Q3 |
| 5 | Q4 |
| 6 | Q5 |
| 7 | Q6 |
| 8 | Q7 |
| 9 | COM(-) |
| 10 | +V |
| 11 | Q10 |
| 12 | Q11 |
| 13 | Q12 |
| 14 | Q13 |
| 15 | Q14 |
| 16 | Q15 |
| 17 | Q16 |
| 18 | Q17 |
| 19 | COM(-) |
| 20 | +V |

### FC3A-T16K3 Sink Output Module Terminal Arrangement

16-Point DC - Nylon Connector Type

Applicable Connectors: VHR-10N (J.S.T. Mfg.)
SVH-21T-P1.1 (J.S.T. Mfg.)




| Terminal No. | CN1 |
|---|---|
| 1 | Q0 |
| 2 | Q1 |
| 3 | Q2 |
| 4 | Q3 |
| 5 | Q4 |
| 6 | Q5 |
| 7 | Q6 |
| 8 | Q7 |
| 9 | COM(-) |
| 10 | +V |

| Terminal No. | CN2 |
|---|---|
| 1 | Q10 |
| 2 | Q11 |
| 3 | Q12 |
| 4 | Q13 |
| 5 | Q14 |
| 6 | Q15 |
| 7 | Q16 |
| 8 | Q17 |
| 9 | COM(-) |
| 10 | +V |

# 16-Point DC Protect Source Output Module

Protect Source Output Module
FC3A-T16P1

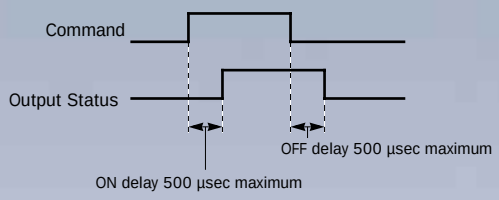
## Key Features

- 16 transistor protect source outputs per card, 15 cards max. per CPU
- Outputs rated 19-30V DC/0.5A
- Turn On/Off delay 500µsec max.
- Opto-isolated outputs
- Termination connector, removable Phoenix Contact type

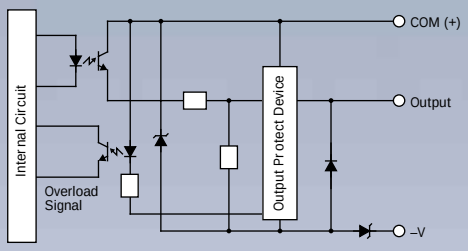
## General Specifications

| Output Type | DC Source |
|---|---|
| Part Number | FC3A-T16P1 |
| Connector Type | Phoenix Contact |
| Rated Output Voltage | 19-30V DC |
| Rated Current Per Point | 500mA @ 24V DC |
| Internal Current - all inputs ON | 70mA |
| On/Off Time | 500µs/500µs |

## Output Delay




## Output Internal Circuit

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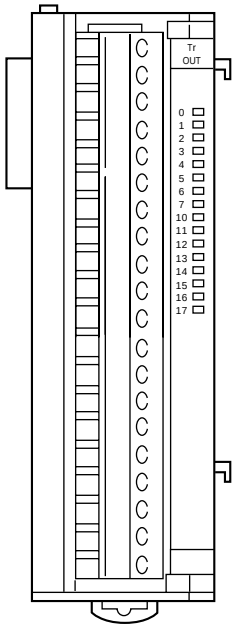
**FC3A-T16P1 Protect Source Output Module Terminal Arrangement**

16-Point DC - Screw Terminal Type

Applicable Connector: SMSTB2.5/20-ST-5.08 (Phoenix Contact)




| Terminal No. | Name |
|---|---|
| 1 | Q0 |
| 2 | Q1 |
| 3 | Q2 |
| 4 | Q3 |
| 5 | Q4 |
| 6 | Q5 |
| 7 | Q6 |
| 8 | Q7 |
| 9 | COM(+) |
| 10 | -V |
| 11 | Q10 |
| 12 | Q11 |
| 13 | Q12 |
| 14 | Q13 |
| 15 | Q14 |
| 16 | Q15 |
| 17 | Q16 |
| 18 | Q17 |
| 19 | COM(+) |
| 20 | -V |

# 32-Point DC Sink Output Modules

DC Sink Output Module
FC3A-T32K4

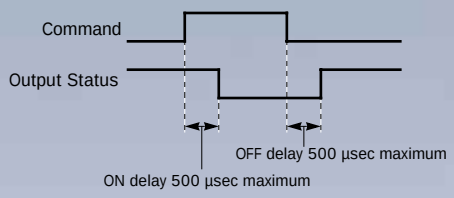
## Key Features

- 32 transistor sink outputs per card, 15 cards max. per CPU
- Outputs rated 20.4-27.6V DC/0.1A
- Turn On/Off delay 500µsec max.
- Opto-isolated outputs
- Termination connector
  -FC3A-T32K4 - removable Nylon type
  -FC3A-T32K5 - removable Fujitsu type

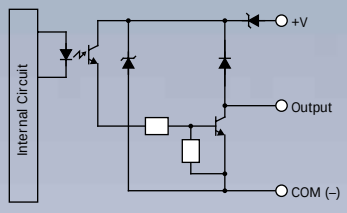
## General Specifications

| Output Type | DC Sink | |
|---|---|---|
| Part Number | FC3A-T32K4 | FC3A-T32K5 |
| Connector Type | Nylon | Fujitsu |
| Rated Output Voltage | 20.4-27.6V DC | 20.4-27.6V DC |
| Rated Current Per Point | 100mA@24V DC | 100mA@24V DC |
| Internal Current - all inputs ON | 90mA | 90mA |
| On/Off Time | 500/500µs | 500/500µs |

## Output Delay




## Output Internal Circuit

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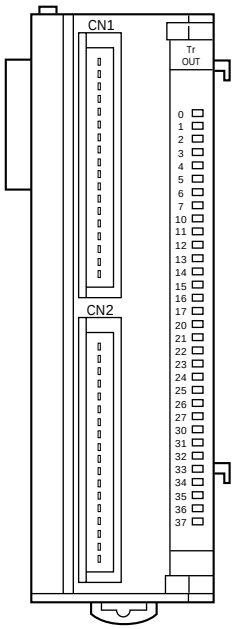
### FC3A-T32K4 Sink Output Module Terminal Arrangement

32-Point DC - Nylon Connector Type

Applicable Connectors: H18-SHF-AA (J.S.T. Mfg.)
SHF-001T-0.8BS (J.S.T. Mfg.)

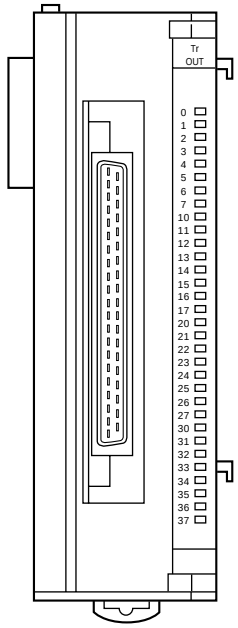



| Terminal No. | CN1 | CN2 |
|---|---|---|
| 18 | Q0 | Q20 |
| 17 | Q1 | Q21 |
| 16 | Q2 | Q22 |
| 15 | Q3 | Q23 |
| 14 | Q4 | Q24 |
| 13 | Q5 | Q25 |
| 12 | Q6 | Q26 |
| 11 | Q7 | Q27 |
| 10 | Q10 | Q30 |
| 9 | Q11 | Q31 |
| 8 | Q12 | Q32 |
| 7 | Q13 | Q33 |
| 6 | Q14 | Q34 |
| 5 | Q15 | Q35 |
| 4 | Q16 | Q36 |
| 3 | Q17 | Q37 |
| 2 | COM(-) | COM(-) |
| 1 | +V | +V |

### FC3A-T32K5 Sink Output Module Terminal Arrangement

32-Point DC - Fujitsu Connector Type

Applicable Connector: FCN-367J040-AU (Fujitsu)




| Terminal No. | Name |
|---|---|
| B20 | Q0 |
| B19 | Q1 |
| B18 | Q2 |
| B17 | Q3 |
| B16 | Q4 |
| B15 | Q5 |
| B14 | Q6 |
| B13 | Q7 |
| B12 | Q10 |
| B11 | Q11 |
| B10 | Q12 |
| B9 | Q13 |
| B8 | Q14 |
| B7 | Q15 |
| B6 | Q16 |
| B5 | Q17 |
| B4 | NC |
| B3 | NC |
| B2 | +V |
| B1 | +V |

| Terminal No. | Name |
|---|---|
| A20 | Q20 |
| A19 | Q21 |
| A18 | Q22 |
| A17 | Q23 |
| A16 | Q24 |
| A15 | Q25 |
| A14 | Q26 |
| A13 | Q27 |
| A12 | Q30 |
| A11 | Q31 |
| A10 | Q32 |
| A9 | Q33 |
| A8 | Q34 |
| A7 | Q35 |
| A6 | Q36 |
| A5 | Q37 |
| A4 | NC |
| A3 | NC |
| A2 | COM(-) |
| A1 | COM(-) |

# Expansion Power Supply Module


Expansion Module
FC3A-EA1

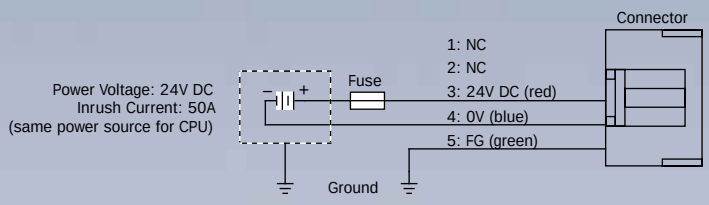
## Key Features

- Expands the ONC from 224 up to 480 I/O points
- Increases I/O and functional modules by 8
- Comes with a cable connector and contacts
- Simple, easy and convenient mounting
- Install in the 8 slot only

## General Specifications

| Specifications | |
|---|---|
| **Part Number** | FC3A-EA1 |
| **Connector Type** | Nylon - 5 pin |
| **Input Voltage Range** | 19 - 30V DC (including ripple) |
| **Rated Input Voltage** | 24V DC |
| **Internal Current** | 30mA |
| **Momentary Power Interruption** | 10 msec (24V DC), Level PS-2 (EN61131) |

## Power Supply Wiring

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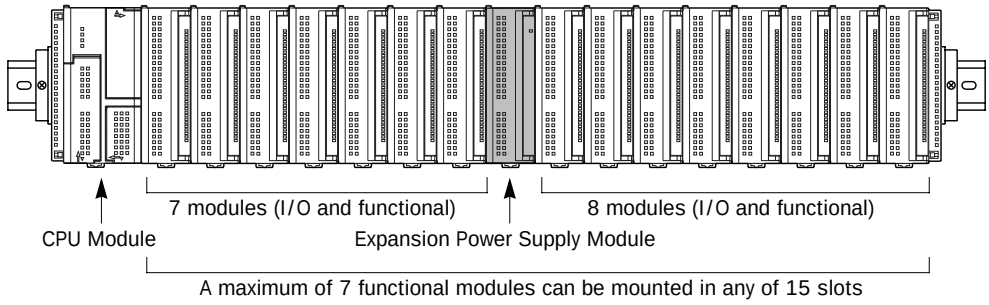
**FC3A-EA1 Expansion Power Supply Module Mounting Position**

Mount the expansion power supply module in the eighth slot.




*Mount the expansion power supply module only in the eighth slot, otherwise correct allocation of I/O and link register numbers may not occur.*