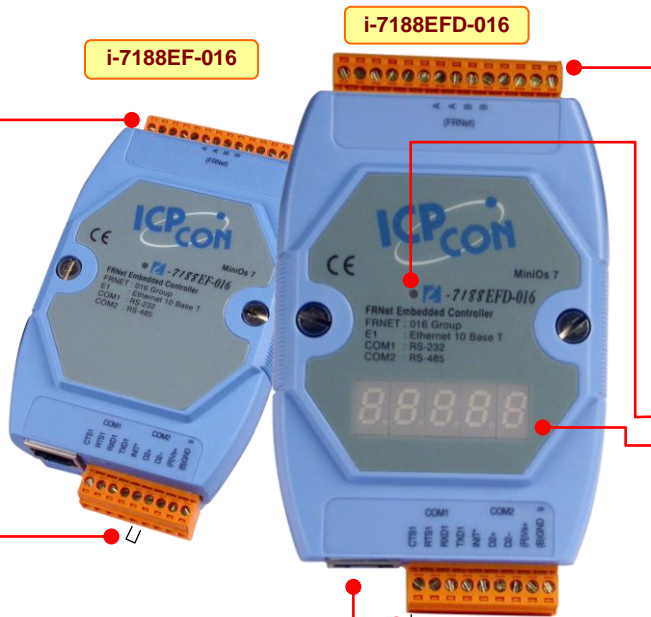


i-7188EF(D)-016

Ethernet PAC – with FRnet

3 Palm - size PAC - µPAC



Main Features

- 80188-40 embedded CPU
- 10 BASE-T NE2000 compatible Ethernet
- OS: MiniOS7
- 512K SRAM, 512K Flash, 2K EEPROM
- Built-in RTC, NVRAM, EEPROM
- COM port : RS-232, RS-485
- FRnet port : isolated, high speed
- Power / Communication Indicator LED
- 5-digit 7-segment LED Display



Ethernet Port : 10 Base-T

To PC (Program download)
Modbus TCP/RTU/ASCII
TCP, UDP, IP, ICMP, ARP

COM1 : RS-232

To PC (Program download)
Modbus TCP/RTU/ASCII

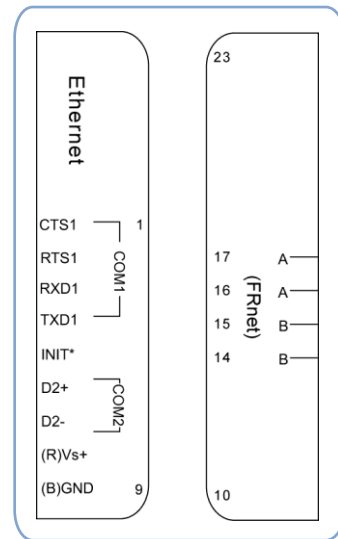
COM2 : RS-485 (D/A, A/D, DI/O, Relay, Counter, Frequency)

Remote I/O module: I-7000 (DCON Protocol), M-7000 (Modbus Protocol)
Expansion Unit: RU-87Pn + i-87K I/O module (High profile)
I-87Kn + i-87K I/O module (Low profile)

FRnet Port: (D/A, A/D, DI/O, Relay, Terminal connector)

Distributed I/O Module: FR-2000 series
MagicWire Module: MA series, FRnet for PLC I/O Link
FR I/O Module: FR-16/32 series

Pin Assignments



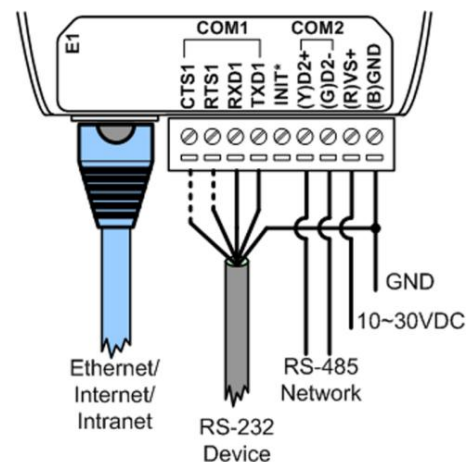
Features

- Supports FRnet & TCP/IP (TCP, UDP, IP, ICMP, ARP) networks
- Re-loadable OS, software, application programs
- Remote Configuration / Maintenance
- Diagnostics
- 64-bit hardware unique serial number inside
- COM driver support interrupt & 1K QUEUE Input & Output buffer
- Built-in self-tuner ASIC controller on RS-485 port
- Program download port: COM1 or Ethernet Port

FRnet Features

- An innovative industrial field bus
- High speed deterministic I/O control
- Real I/O synchronization capability
- Non-protocol communication
- Easy used memory-mapping I/O programming
- One FRnet port to expand distributed I/O module
- Two wire cabling

Wiring



Specifications

Series : Palm-size PAC > 1st Generation > i-7188E > i-7188EF(D)-016

PACs	i-7188EF-016	i-7188EFD-016
■ CPU		
CPU	80188, 40MHz or compatible	
SRAM	512K bytes	
Flash Memory	512K bytes; Erase unit is one sector (64Kb), 100,000 erase/write cycles	
EEPROM	2K Bytes (8 blocks, each block contains 256 bytes); Data retention > 100 years; 1,000,000 erase/write cycle	
NVRAM	31 Bytes (battery backup, data valid up to 10 year)	
RTC (Real Time Clock)	Yes; Displays seconds, minutes, hours, date of the month, month and year from 1980 to 2079	
64-bit Hardware Serial Number	Yes	
Built-in Watchdog Timer	Yes (0.8 seconds)	
■ Communication Interface		
COM1	RS-232 (CTS, RTS, RXD, TXD, GND); Non-isolation, download port	
COM2	RS-485 (D2+, D2-); self-tuner ASIC inside; Non-isolation	
Ethernet Port	10 BASE-T, RJ-45 port, NE2000 compatible Ethernet Controller	
FRnet Port	<ul style="list-style-type: none"> • Communication speed : 250Kbps • Scan time : 128 input / 128 output points @ 2.88 mS (i-7188EF-016L) • Communication distance : Max. 400m (i-7188EF-016L) • Cable: CPEV 0.9 (2P Twisted-pair wire) • Distributed I/O modules: Max. 8 SA modules, FR-2053T (16 DI) Max. 8 RA modules, FR-2057T (16 DO) • Each module of FR-2053T/FR-2057T module is one group. 	
■ COM Port Formats		
Baud rate	115200 bps Max.	
Data bit	7, 8	
Parity	Even, Odd, None	
Stop bit	1	
■ LED Display		
5-Digit 7 Segment LED Display	--	Yes
System LED Indicator	Yes	
■ Mechanical		
Dimensions (W x H x D)	123mm x 72mm x 33mm	
Installation	DIN-Rail, Stack Mounting	
■ Operating Environment		
Operating Temperature	-25°C to +75°C	
Storage Temperature	-40°C to +80°C	
Humidity	Operating humidity: 10% ~90% RH, non-condensing Storage humidity : 5%~95% RH, non-condensing	
■ Power		
Protection	Power reverse polarity protection	
Required Supply Voltage	+10 to +30V/DC (non-regulated)	
Power consumption	2W	3W

Applications

- Factory automation
- Building automation
- Energy management
- Agriculture automation



Ordering Information

Model Number	Description
I-7188EF-016 CR	10M Ethernet FRnet palm-size PAC, 80188-40 CPU, MiniOS7, 512K SRAM (RoHS)
I-7188EFD-016 CR	10M Ethernet FRnet palm-size PAC, 80188-40 CPU, MiniOS7, 512K SRAM, LED display (RoHS)
Optional Accessories	
FR-2053/2053T/2053S	FR-2000 series; Distributed I/O Module, 16-channel Isolated Sink Digital Input Module
MA-11/12/21/22	MagicWire Module; FRnet for PLC I/O link
FR-32P	FR I/O Module; 32-channel Isolated Digital Input Module
FR-16/32R	FR I/O Module; 16/32-channel Relay Output Module
DIN-KA52F	1.05 Amp. DIN-Rail Mounting Power supply
NS-208 CR / NS-205 CR	Industrial Ethernet Switch, unmanaged 8-Port / 5-port, 10/100 Base-T with Plastic Case (RoHS)