

FA3S: The Powerhouse

Key features of the FA3S include:

- Up to 256 local I/O points
- Up to 1,024 fiber optic remote I/O points, from up to 3,280' (1km) away
- 8-channel analog module
- RS232 and RS485 modules available
- Modem communications
- Real-time clock and calendar available
- High-speed interrupt I/O (16 or 32 points)
- Average Boolean scan: 0.3ms/K
- Up to 8K program steps
- Built-in programming/ASCII port



UL Listed
File No. E102542



CSA Certified
File No. LR66809



CE Certified
EMC Approved*



File No. E9960513332
*Some modules excepted

| | Standard CPUs | High-Performance CPU |
|---|---|--|
| Available Instructions | 15 basic, 57 advanced CP11T: plus 6 clock and protect instructions | 15 basic 122 advanced |
| Program Capacity | CP11: 964 steps (1K memory) 3,300 steps (4K memory) CP11T: 3,300 steps (built-in EEPROM) | 964 steps (1K memory) 4,036 steps (4K memory) CP13: 8,072 steps (8K memory) |
| Memory | CP11: 1K and 4K CMOS-RAM (with battery); 4K EEPROM; 4K EPROM CP11T: Built-in 4K EEPROM memory | 1K and 4K CMOS-RAM (with battery); 4K EEPROM CP13: 8K CMOS-RAM or EEPROM |
| Average Scan Time | 6µs per basic instruction | 0.3µs per basic instruction |
| Input | 128 points (maximum) | I/O configurable |
| Output | 128 points (maximum) | I/O configurable |
| Total I/O Points | 256 points | 256 points |
| Internal Relay | 608 points (240 points can be maintained) | 1,024 points (240 points can be maintained) |
| Special Internal Relay | CP11: 16 points; CP11T: 18 points | 32 points |
| Shift Register | 128 points | 224 points |
| Single Shot Output | 96 points | 256 points |
| Timer | 80 points, subtracting (0–999.9s) | 256 points |
| 10ms Timer | 80 points | 80 points |
| Counter | 45 points, adding (0–9,999) (all points can be maintained) | 100 points, adding (0–9,999) (all points can be maintained) |
| Reversible Counter | 2 points (all points can be maintained) | 2 points (all points can be maintained) |
| Data Register | 400 points (all points can be maintained) | 1,000 points (all points can be maintained) |
| Forced I/O | Not available | Available (50 points simultaneously) |
| Remote I/O | Not available | 1,024 points (plus 256 points basic capacity) |
| Runtime Program Modify | Not available | Available |
| Real-Time Clock/Calendar Runtime | Available on CP11T only | Not available |
| Program Protection | Available on CP11T only | Available |
| High-Performance Modules | High-speed counter (PF3S-HSC2) | High-speed counters (PF3S-HSC1 and -HSC2), high-speed interrupt I/O, remote I/O, RS232, RS485 |
| External Control | Start: input 0 (release possible); Stop/reset: function designated | |
| Power Failure | Protected: Internal relay, shift register, counter, reversible counter, data register | |
| Self-Diagnostics | CPU error (WDT), communication error, CRC error in user programs, operation code error | |
| Auto Start Function | After power-up, automatic run, function designated | |

General Specifications

Programmable Logic Controllers



The FA2 loader (PF2-2H4RE) and FA3 loader (PF3S-HL161E) are compatible with all FA series PLCs and the Micro-1.

Part Numbers: FA3S Series

| Item | Description | | Part Number |
|--|--|---|-------------------------|
| CPU | Standard CPU | | PF3S-CP11 |
| | Standard CPU with built-in 4K EEPROM & clock | | PF3S-CP11T |
| | High Performance CPUs | | PF3S-CP12 PF3S-CP13 |
| Input | Transistor | 16 point sink/source | PF3S-N16B |
| | | 32 point sink/source | PF3S-N32B PF3S-N325B |
| | AC | 16 point 100-120V AC | PF3S-N16A1 |
| | | 16 point 200-240V AC | PF3S-N16A2 |
| | Analog | 8 Channel: 0 - 10V | PF3S-AD8B1 |
| | | 8 Channel: 4 - 20mA | PF3S-AD8B2 |
| | | 1 Channel: 0 - 10V | PF3S-AD121 |
| | | 1 Channel: 1 - 5V, 4 - 20mA | PF3S-AD122 |
| Multiplexer | 4-channel analog input (voltage/current) | | PF3S-MP41 |
| Output | Relay | 8-point | PF3S-R081 |
| | | 16-point | PF3S-R161 |
| | Transistor | 16-point Transistor sink out | PF3S-T16K |
| | | 16-point Transistor source out | PF3S-T16S |
| | | 32-point Transistor source out | PF3S-T32K |
| | | 32-point TTL Transistor sink out | PF3S-T325K |
| | | 32-point Transitory source out | PF3S-T32S |
| | SSR | 16-point | PF3S-S161 |
| Analog | 2 channel 0-10V, 4 - 20mA | PF3S-DA121 | |
| Combination I/O | | | PF3S-M32K PF3S-M325K |
| High Speed Counter | One Channel | use with CP12/CP13 | PF3S-HSC1 |
| | | use with any CPU | PF3S-HSC2 |
| High Speed I/O | 8pt Source In/ 8pt Sink Out, | use with CP12/CP13 | PF3S-HSL1 |
| Serial Interface | RS232 Communication module | | PF3S-SIF2 |
| | RS485 Communication module | | PF3S-SIF4 |
| Fiber Optic Remote I/O | Master | short range | PF3S-RMP1 |
| | | medium range | PF3S-RMQ1 |
| | Slave | short range | PF3S-RTP1 |
| | | medium range | PF3S-RTQ1 |
| AC Power Supply | Standard | 12V DC, 1.25A | PF3S-PSA1 |
| | Large Capacity | 12V DC, 2.0A | PF3S-PSA2 |
| DC Power Supply | 12V DC, 1.7A | | PF3S-PSD1 |
| External Power Supply | 24V DC, 1.0A | | PF3S-EPA1 |
| Backplane | 2-slot base plate | | PF3S-BP12 |
| | 3-slot base plate | | PF3S-BP13 |
| Program Loader | Loader | Program loader with built-in PROM burner 59" (1.5m) | PF3S-HL161E |
| | Extension Cable | — not included with program loader | PFA-1A11 |
| Memory Packs (see details on page J-42) | 4K EEPROM (compatible with FA3S) | | PFA-1M14 |
| | 1K CMOS-RAM (compatible with FA3S) | | PFA-1M21 |
| | 4K CMOS-RAM (compatible with FA3S) | | PFA-1M24 |
| Computer Interface (all 3 parts required) | Link adaptor for 1:1 communications to IBM-compatible PC | | PF2-CLA |
| | Link cable, FA series CPU to link adapter 12" (300mm) | | PFA-1A51 |
| | Link cable, PC to link adapter, 78.74" (2m) | | PFA-1A54A |
| Software | Windows-based programming software for all IDEC PLCs (for more information, see page J-44) | | WINDLDR |
| Manuals | FA3S (CP11) User's Manual | | EM266-CP11 |
| | FA3S (CP12/CP13) Users Manual | | EM267 |
| | CP11T Addendum to CP11 | | EM283 |
| | HSC2 High Speed Manual | | EM279 |
| | SIF2/F4 Serial I/O Manual | | EM284 |
| | F A Advanced Users Guide | | EM297 |
| Battery | Lithium battery for PF3S-CP11T CPU | | ER17/33WK23 |