

Smart Panel—FSS4

The Smart Panel—FSS4 is designed to provide auto sequencing, failover and temperature staging for 2 to 4 devices within 1 or 2 groups.

Description:

The SP-FSS4 is a microprocessor based controller that is designed to monitor dry-contact summary alarm conditions from any piece of equipment that requires an automated way to provide auto sequencing, failover and/or temperature staging. The relay outputs of the SP-FSS4 signal the external equipment to start / stop based on the parameters set within the program.

Each feature of auto sequencing, failover and temperature staging may be enabled / disabled so users can define exactly how the system should operate for their environment.

All base models provide network connectivity and WiFi for configuration and remote monitoring. User may also select touch panel local display.

Standard Functionality:

- Monitor up to 4 devices thru dry contacts
- Control devices thru start/stop relay
- Auto-Sequencing enable / disable
- Fail-over enable / disable
- 4-step temperature staging (per group)
- Modbus TCP and SNMP for remote systems
- WiFi Capable

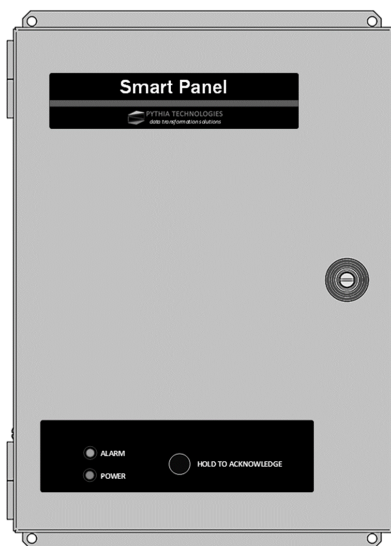
Standard Features:

- Web enabled for configuration and operational viewing
- Event Notifications when connected to the customers network
- Data logging and trend graphing
- Extensible by adding more I/O capability
- Common alarm output per unit
- Internal horn, power and common alarm indicators

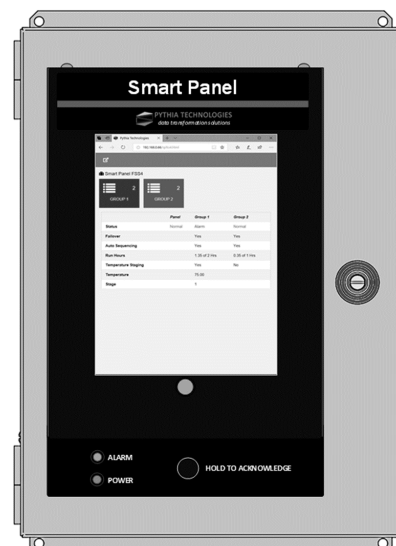
Models:

- SP-FSS4 without display (plus network connectivity)
- SP-FSS4 with Touch Panel Display (plus network connectivity)

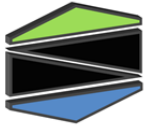
Assembly Options:



SP-FSS4 without display



SP-FSS4 with Touch Panel Display



Main Functions:

- Manage up to (4) units within (2) groups
- Common Alarm inputs trigger action (dry-contacts)
- Relay outputs for units on/off control (volt-free relay)
- Units change on: (each function can be enabled / disabled)

Common Alarm (Failover)

Auto Sequencing (Run Time 1-999 hours)

Temperature stage (4-step, set by user)

- Other Parameters:

Minimum Unit Runtime on change (minutes)

Unit Off / On Delay on change (minutes)

Unit Hold Time on change (minutes)

- Front Panel:

Touch Panel Display

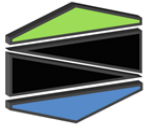
Common Alarm LED

Power On Indicator

Alarm acknowledge / silence button

Additional Features:

- Network and Wi-Fi connectivity
 - Configure via front panel display, or via remote PC (laptop)
 - Remote Management / remote display capable
 - Event notifications (SMTP email / text, SNMP trap)
 - Modbus TCP for BMS systems (R/W)
 - SNMP for NMS systems (R/W)
- Optional version without display



Summary view:

- 1 Overall status for panel, Group 1 and Group 2
- 2 Features enabled / disabled per Group
- 3 Temperature sensor reading if installed
- 4 Stage of cooling per temp sensor reading and thresholds
- 5 Unit hold timer on change



Smart Panel FSS4

 2
GROUP 1

 2
GROUP 2

	Panel	Group 1	Group 2
Status	1 Normal	Normal	Normal
Failover		Yes	Yes
Auto Sequencing	2	Yes	Yes
Last Sequence Changeover		06-28-2019 10:00	06-28-2019 09:00
Sequencing Run Hours		0.65 of 1 Hrs	1.65 of 4 Hrs
Temperature Staging		Yes	No
Temperature	3	75.00	
Stage	4	2	
Unit Hold	5	Inactive	Inactive






Group view:

- 1 Status icons with summary data (green normal/ red alarm)
- 2 Unit descriptions, Unit Status
- 3 Programmatic status (Auto, Forced On / Off)
- 4 Unit Functional Parameter (Standby or Primary)
- 5 Programmatic state vs. Real time status (On / Off / On Hold)

	Unit 1	Unit 2
Description	CRAC-01	CRAC-02
Status	Normal	Normal
Enable	AUTO	AUTO
Type	STANDBY	ACTIVE
Unit Command	ON	ON
Unit On	Yes	Yes



Unit view:



≡ Unit 1

≡ Data

Description	CRAC-01
Unit On	Yes (Status)
Unit Command	ON (Status)

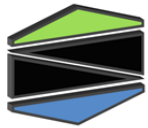
≡ Alarm

Summary	Normal
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Point Name	SNMP OID	Modbus Register	Read/Write	Notes
Panel Communications	.1.3.6.1.4.1.38801.6.1.0	40001	R	(0=normal, 1=loss of communications)
Panel State	.1.3.6.1.4.1.38801.6.2.0	40002	R	(0=disabled, 1=normal, 2=alarm)
Panel Unit Minimal Run Time	.1.3.6.1.4.1.38801.6.3.0	40003	R/W	(minutes)
Panel Unit Off / On Delay	.1.3.6.1.4.1.38801.6.4.0	40004	R/W	(minutes)
Panel Unit Hold Time	.1.3.6.1.4.1.38801.6.5.0	40005	R/W	(minutes)
Panel Buzzer	.1.3.6.1.4.1.38801.6.6.0	40006	R/W	(0=disabled, 1=enabled, 2=silence mo-
Group 1 State	.1.3.6.1.4.1.38801.6.1001.0	41001	R	(0=disabled, 1=normal, 2=alarm)
Group 1 Failover	.1.3.6.1.4.1.38801.6.1002.0	41002	R/W	(0=disabled, 1=enabled)
Group 1 Auto Sequence	.1.3.6.1.4.1.38801.6.1003.0	41003	R/W	(0=disabled, 1=enabled)
Group 1 Auto Sequence Start Time	.1.3.6.1.4.1.38801.6.1004.0	41004	R/W	(hour)
Group 1 Auto Sequence Time	.1.3.6.1.4.1.38801.6.1005.0	41005	R/W	(hours)
Group 1 Temperature Staging	.1.3.6.1.4.1.38801.6.1006.0	41006	R/W	(0=disabled, 1=enabled)
Group 1 Temperature SetPoint1	.1.3.6.1.4.1.38801.6.1007.0	41007	R/W	(Deg F)
Group 1 Temperature SetPoint2	.1.3.6.1.4.1.38801.6.1008.0	41008	R/W	(Deg F)
Group 1 Temperature SetPoint3	.1.3.6.1.4.1.38801.6.1009.0	41009	R/W	(Deg F)
Group 1 Temperature SetPoint4	.1.3.6.1.4.1.38801.6.1010.0	41010	R/W	(Deg F)
Group 1 Sequencing Run Hours	.1.3.6.1.4.1.38801.6.1011.0	41011	R/W	(hours *.01)
Group 1 Temperature	.1.3.6.1.4.1.38801.6.1012.0	41012	R/W	(Deg F *.01)
Group 1 Temperature Stage	.1.3.6.1.4.1.38801.6.1013.0	41013	R	(1-4)
Group 1 Number Of Units	.1.3.6.1.4.1.38801.6.1014.0	41014	R	(number of units assigned to group)
Group 1 Auto Sequence Last Changeover	.1.3.6.1.4.1.38801.6.1015.0	41015	R	(number of seconds since 1/1/1970)
Group 1 Unit 1 State	.1.3.6.1.4.1.38801.6.1101.0	41101	R	(0=not assigned, 1=normal, 2=alarm)
Group 1 Unit 1 Enable	.1.3.6.1.4.1.38801.6.1102.0	41102	R	(0=not assigned, 1=auto, 2=force on,
Group 1 Unit 1 Type	.1.3.6.1.4.1.38801.6.1103.0	41103	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two
Group 1 Unit 1 Unit Command	.1.3.6.1.4.1.38801.6.1104.0	41104	R	(0=off, 1=on)
Group 1 Unit 1 Unit On	.1.3.6.1.4.1.38801.6.1105.0	41105	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 1 Unit 1 Summary Alarm	.1.3.6.1.4.1.38801.6.1106.0	41106	R	(0=inactive, 1=active)
Group 1 Unit 1 Description	.1.3.6.1.4.1.38801.6.1107.0	41107	R/W	(12 Characters SNMP only)
Group 1 Unit 2 State	.1.3.6.1.4.1.38801.6.1201.0	41201	R	(0=not assigned, 1=normal, 2=alarm)
Group 1 Unit 2 Enable	.1.3.6.1.4.1.38801.6.1202.0	41202	R	(0=not assigned, 1=auto, 2=force on,
Group 1 Unit 2 Type	.1.3.6.1.4.1.38801.6.1203.0	41203	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two
Group 1 Unit 2 Unit Command	.1.3.6.1.4.1.38801.6.1204.0	41204	R	(0=off, 1=on)
Group 1 Unit 2 Unit On	.1.3.6.1.4.1.38801.6.1205.0	41205	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 1 Unit 2 Summary Alarm	.1.3.6.1.4.1.38801.6.1206.0	41206	R	(0=inactive, 1=active)
Group 1 Unit 2 Description	.1.3.6.1.4.1.38801.6.1207.0	41207	R/W	(12 Characters SNMP only)



Point Name	SNMP OID	Modbus Register	Read/Write	Notes
Group 1 Unit 3 State	.1.3.6.1.4.1.38801.6.1301.0	41301	R	(0=not assigned, 1=normal, 2=alarm)
Group 1 Unit 3 Enable	.1.3.6.1.4.1.38801.6.1302.0	41302	R	(0=not assigned, 1=auto, 2=force on, 3=force off)
Group 1 Unit 3 Type	.1.3.6.1.4.1.38801.6.1303.0	41303	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two creates unit and assigns to group.
Group 1 Unit 3 Unit Command	.1.3.6.1.4.1.38801.6.1304.0	41304	R	(0=off, 1=on)
Group 1 Unit 3 Unit On	.1.3.6.1.4.1.38801.6.1305.0	41305	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 1 Unit 3 Summary Alarm	.1.3.6.1.4.1.38801.6.1306.0	41306	R	(0=inactive, 1=active)
Group 1 Unit 3 Description	.1.3.6.1.4.1.38801.6.1307.0	41307	R/W	(12 Characters SNMP only)
Group 1 Unit 4 State	.1.3.6.1.4.1.38801.6.1401.0	41401	R	(0=not assigned, 1=normal, 2=alarm)
Group 1 Unit 4 Enable	.1.3.6.1.4.1.38801.6.1402.0	41402	R	(0=not assigned, 1=auto, 2=force on, 3=force off)
Group 1 Unit 4 Type	.1.3.6.1.4.1.38801.6.1403.0	41403	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two creates unit and assigns to group.
Group 1 Unit 4 Unit Command	.1.3.6.1.4.1.38801.6.1404.0	41404	R	(0=off, 1=on)
Group 1 Unit 4 Unit On	.1.3.6.1.4.1.38801.6.1405.0	41405	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 1 Unit 4 Summary Alarm	.1.3.6.1.4.1.38801.6.1406.0	41406	R	(0=inactive, 1=active)
Group 1 Unit 4 Description	.1.3.6.1.4.1.38801.6.1407.0	41407	R/W	(12 Characters SNMP only)
Group 2 State	.1.3.6.1.4.1.38801.6.2001.0	42001	R	(0=disabled, 1=normal, 2=alarm)
Group 2 Failover	.1.3.6.1.4.1.38801.6.2002.0	42002	R/W	(0=disabled, 1=enabled)
Group 2 Auto Sequence	.1.3.6.1.4.1.38801.6.2003.0	42003	R/W	(0=disabled, 1=enabled)
Group 2 Auto Sequence Start Time	.1.3.6.1.4.1.38801.6.2004.0	42004	R/W	(hour)
Group 2 Auto Sequence Time	.1.3.6.1.4.1.38801.6.2005.0	42005	R/W	(hours)
Group 2 Temperature Staging	.1.3.6.1.4.1.38801.6.2006.0	42006	R/W	(0=disabled, 1=enabled)
Group 2 Temperature SetPoint1	.1.3.6.1.4.1.38801.6.2007.0	42007	R/W	(Deg F)
Group 2 Temperature SetPoint2	.1.3.6.1.4.1.38801.6.2008.0	42008	R/W	(Deg F)
Group 2 Temperature SetPoint3	.1.3.6.1.4.1.38801.6.2009.0	42009	R/W	(Deg F)
Group 2 Temperature SetPoint4	.1.3.6.1.4.1.38801.6.2010.0	42010	R/W	(Deg F)
Group 2 Sequencing Run Hours	.1.3.6.1.4.1.38801.6.2011.0	42011	R/W	(hours *.01)
Group 2 Temperature	.1.3.6.1.4.1.38801.6.2012.0	42012	R/W	(Deg F *.01)
Group 2 Temperature Stage	.1.3.6.1.4.1.38801.6.2013.0	42013	R	(1-4)
Group 2 Number Of Units	.1.3.6.1.4.1.38801.6.2014.0	42014	R	(number of units assigned to group)
Group 2 Auto Sequence Last Changeover	.1.3.6.1.4.1.38801.6.2015.0	42015	R	(number of seconds since 1/1/1970)



Point Name	SNMP OID	Modbus Register	Read/Write	Notes
Group 2 Unit 1 State	.1.3.6.1.4.1.38801.6.2101.0	42101	R	(0=not assigned, 1=normal, 2=alarm)
Group 2 Unit 1 Enable	.1.3.6.1.4.1.38801.6.2102.0	42102	R	(0=not assigned, 1=auto, 2=force on, 3=force off)
Group 2 Unit 1 Type	.1.3.6.1.4.1.38801.6.2103.0	42103	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two creates unit and assigns to group.
Group 2 Unit 1 Unit Command	.1.3.6.1.4.1.38801.6.2104.0	42104	R	(0=off, 1=on)
Group 2 Unit 1 Unit On	.1.3.6.1.4.1.38801.6.2105.0	42105	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 2 Unit 1 Summary Alarm	.1.3.6.1.4.1.38801.6.2106.0	42106	R	(0=inactive, 1=active)
Group 2 Unit 1 Description	.1.3.6.1.4.1.38801.6.2107.0	42107	R/W	(12 Characters SNMP only)
Group 2 Unit 2 State	.1.3.6.1.4.1.38801.6.2201.0	42201	R	(0=not assigned, 1=normal, 2=alarm)
Group 2 Unit 2 Enable	.1.3.6.1.4.1.38801.6.2202.0	42202	R	(0=not assigned, 1=auto, 2=force on, 3=force off)
Group 2 Unit 2 Type	.1.3.6.1.4.1.38801.6.2203.0	42203	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two creates unit and assigns to group.
Group 2 Unit 2 Unit Command	.1.3.6.1.4.1.38801.6.2204.0	42204	R	(0=off, 1=on)
Group 2 Unit 2 Unit On	.1.3.6.1.4.1.38801.6.2205.0	42205	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 2 Unit 2 Summary Alarm	.1.3.6.1.4.1.38801.6.2206.0	42206	R	(0=inactive, 1=active)
Group 2 Unit 2 Description	.1.3.6.1.4.1.38801.6.2207.0	42207	R/W	(12 Characters SNMP only)
Group 2 Unit 3 State	.1.3.6.1.4.1.38801.6.2301.0	42301	R	(0=not assigned, 1=normal, 2=alarm)
Group 2 Unit 3 Enable	.1.3.6.1.4.1.38801.6.2302.0	42302	R	(0=not assigned, 1=auto, 2=force on, 3=force off)
Group 2 Unit 3 Type	.1.3.6.1.4.1.38801.6.2303.0	42303	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two creates unit and assigns to group.
Group 2 Unit 3 Unit Command	.1.3.6.1.4.1.38801.6.2304.0	42304	R	(0=off, 1=on)
Group 2 Unit 3 Unit On	.1.3.6.1.4.1.38801.6.2305.0	42305	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 2 Unit 3 Summary Alarm	.1.3.6.1.4.1.38801.6.2306.0	42306	R	(0=inactive, 1=active)
Group 2 Unit 3 Description	.1.3.6.1.4.1.38801.6.2307.0	42307	R/W	(12 Characters SNMP only)
Group 2 Unit 4 State	.1.3.6.1.4.1.38801.6.2401.0	42401	R	(0=not assigned, 1=normal, 2=alarm)
Group 2 Unit 4 Enable	.1.3.6.1.4.1.38801.6.2402.0	42402	R	(0=not assigned, 1=auto, 2=force on, 3=force off)
Group 2 Unit 4 Type	.1.3.6.1.4.1.38801.6.2403.0	42403	R	(0=not assigned, 1=active, 2=standby). If unit exists, 0 removes unit from group. If unit doesn't exist in group, 1 or two creates unit and assigns to group.
Group 2 Unit 4 Unit Command	.1.3.6.1.4.1.38801.6.2404.0	42404	R	(0=off, 1=on)
Group 2 Unit 4 Unit On	.1.3.6.1.4.1.38801.6.2405.0	42405	R	(0=off, 1=on, 2=off delay, 3=on delay)
Group 2 Unit 4 Summary Alarm	.1.3.6.1.4.1.38801.6.2406.0	42406	R	(0=inactive, 1=active)
Group 2 Unit 4 Description	.1.3.6.1.4.1.38801.6.2407.0	42407	R/W	(12 Characters SNMP only)



PYTHIA TECHNOLOGIES

data transformation solutions

SPECIFICATIONS

Maximum number of monitored devices	4
Maximum number of groups	2
Auto Sequencing	Yes (1-999 hour intervals, user defined) User may disable this function.
Failover	Yes User may disable this function.
Temperature staging	Yes User may disable this function.
Temperature staging levels	4 levels (range 51-90F)
Web Capable	Yes Web page used for configuration and operational viewing
Web page browser compatibility	All web browsers (Ex. MS Internet Explorer, MS Edge, Firefox, Chrome, Safari)
Smart phone / Smart device compatibility	Yes
WiFi Capable	Yes
Summary Alarm Input	SP-FSS4 sourced: 24VDC @ 20ma maximum (500ft max with 18AWG wiring)
Output Relay	Contact Rating: 120VAC @12A, 24VAC @20A (500ft max with 18AWG wiring)
Common Alarm per unit	Contact Rating: 24VAC/VDC @ 1A
Operating Temperatures	0C to +40C (inside enclosure)
Storage Temperature (non-operating)	-40C to +60C (inside enclosure)
Relative Humidity	10 to 95%, non-condensing
Power	120VAC (UPS PROTECTED PREFERRED) / 40 Watts Max
Mounting	Wall mount / Screw mount , thru-hole flange
Size / Weight	17.5" (L) x 12" (W) x 4" (H) / 20lbs (max).

Wire Specifications

Ethernet / IP	Standard CAT5/6 (300ft max)
Dry-Contact Summary Alarm Input	18 AWG, stranded, unshielded (1-pair, 500 ft max) Belden 9740 / 89740
Output Relay to Remote Start / Stop	18 AWG, stranded, unshielded (1-pair, 500 ft max) Belden 9740 / 89740
Power (with 120VAC to 24VDC Transformer)	14/3 AWG, stranded or solid

Ordering (Please call for alternate assembly pricing)

SP-FSS4 (Base assembly without front panel display)

SP-FSS4 –TPD (Base assembly with touch panel display / alarm annunciator / acknowledge / silence button)



PYTHIA TECHNOLOGIES
data transformation solutions

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