

SMS SUBMONITOR CONNECT STARTER

3Ø, 50/60 HZ, 200~600 VAC, 2~300 HP

ELECTRONIC OVERLOAD MOTOR PROTECTION

- Wide range, adjustable, class 5-30 electronic overload
- Dry pump detection protects your pump and motor from adverse conditions and allows for time-based automatic restart with well recovery mode
- Industry-leading motor protection for the following conditions: over/under power (dry-run), over/under voltage protection, voltage phase loss, voltage and current phase unbalance, locked rotor, cycle fault, ground fault
- Easy access to input and output terminals
- 32-character, backlit, NEMA 4x, wash-down rated screen mounted on front of panel allowing for safe viewing of conditions while motor is running
- Motor insulation check

REAL-TIME & DATE-STAMPED FAULT LOGGING

- Unit ships with a pre-programmed real time clock with a 10-year battery backup
- Contains separate fault, configuration change, and start logs. Independent logs allow user to see last fault even if it occurred years ago
- Fault log tracks 150 faults with date and time stamp accurate down to the second; allows users to diagnose power problems and prove them to your power provider; unit will give users a 'snapshot' of conditions at the time of fault, such as line to line voltage and current, alarms present, and I/O status; format of time stamping example: 7/7/16 10:15:24

APPLICATION-BASED SETUP

- SubMonitor Connect is an advanced, comprehensive, 3 phase motor protection relay that allows users to dial in protection and automation with extreme accuracy and parameter depth. However, SubMonitor Connect also has a streamlined Basic Setup Wizard to allows user to get up and running quickly.
- 9 simple steps to program unit
- Users select between Submersible, Surface, or Custom and SubMonitor prepopulates protection parameters accordingly
- Confirm basic motor info, key protection info, time to get started.

AUTOMATION READY—ADVANCED PUMP CONTROL

- 12-240 VAC/VDC wet input for remote start/stop
- Dry contacts for auto run/shutdown or high float/low float
- Modbus RTA communication
- Automatic fault reset and on and off delay settings
- Well recovery mode

HEAVY-DUTY, INDUSTRIAL-GRADE CONSTRUCTION

- Hand-Off-Auto switch rated IP69K for dust tight, high pressure spray-down applications.
- Outdoor rated, gasketed, powder coated, NEMA 3R enclosure designed in house by FCS to optimize layout and functionality
- UL 489 circuit breaker disconnect for branch and short circuit protection
- No fuses required saving time and money
- Lockable handle



SMS SUBMONITOR CONNECT STARTER

SUBMONITOR CONNECT STARTER (COMBINATION)

Model No.	200 V - 460 V SFA Range** (A)	3-Phase UL HP - Max Amps - SCIC															Contactor NEMA Size
		200 VAC			208 VAC			230 VAC			460 VAC			575 VAC			
		HP	A	kA	HP	A	kA	HP	A	kA	HP	A	kA	HP	A	kA	
SMS3R-S0-M-G15	1-8	2	8	50	2	8	50	2	8	50	5	8	25	5	8	14	0
SMS3R-S0-M-G20	8-11	3	11	50	3	11	50	3	11	50	7.5	11	25	10	11	14	0+
SMS3R-S0P-M-G30	11-17	3	17	50	5	17	50	5	17	50	10	17	25	15	17	14	1
SMS3R-S1-M-G40	16-22	5	22	50	5	22	50	7.5	22	50	15	22	25	20	22	14	1+
SMS3R-S1P-M-G50	20-28	7.5	28	50	7.5	28	50	10	28	50	20	28	25	25	28	14	2
SMS3R-S1P-M-G60	24-34	10	34	50	10	34	50	10	34	50	25	34	25	30	32	14	2
SMS3R-S2-M-G80	32-45	10	45	50	10	45	50	15	45	50	30	45	25	40	45	14	3
SMS3R-S2-M-G100	40-52	15	57	50	15	57	50	20	57	50	40	52	25	50	52	14	3
SMS3R-S3-M-G100	40-57	15	57	50	15	57	50	20	57	50	40	57	25	50	57	14	3+
SMS3R-S3-M-G125	50-71	20	71	65	20	71	65	25	71	65	50	71	35	60	71	18	3+
SMS3R-S3P-M-G150	60-85	25	85	65	25	85	65	30	85	65	60	85	35	75	77	18	4
SMS3R-S3P-M-G200	80-DPV*	30	92	65	30	88	65	40	104	65	75	96	35	75	77	18	4
SMS3R-S4-M-G200	80-114	30	114	65	40	114	65	40	114	65	75	114	35	100	99	18	5
SMS3R-S4-M-G250	100-DPV*	40	120	65	40	114	65	50	130	65	100	124	35	-	-	-	5+
SMS3R-S5-M-G300	120-171	50	171	65	60	171	65	60	171	65	125	171	35	-	-	-	-
SMS3R-S5-M-G400	171-228	75	228	65	75	228	65	75	228	65	150	228	35	-	-	-	-
SMS3R-S5P-M-G500	228-285	100	285	65	100	285	65	100	285	65	200	285	35	-	-	-	-
SMS3R-S5P-M-G600	285-342	100	342	65	100	342	65	125	342	65	250	342	35	-	-	-	-
SMS3R-S5P-M-G800	324-DPV*	125	359	65	125	343	65	150	360	65	300	361	35	-	-	-	-
SMS3R-S5-6M-G300	-	-	-	-	-	-	-	-	-	-	-	-	-	150	171	18	-
SMS3R-S5-6M-G400	-	-	-	-	-	-	-	-	-	-	-	-	-	200	228	18	-
SMS3R-S5P-6M-G500	-	-	-	-	-	-	-	-	-	-	-	-	-	250	285	18	-
SMS3R-S5P-6M-G600	-	-	-	-	-	-	-	-	-	-	-	-	-	300	289	18	-

*DPV = Differs per voltage

**Use SFA Range or Max. SFA when sizing for submersible motor applications. If an ampere value for SFA is not published on the motor nameplate, consider SFA range to be FLA range.

SUBMONITOR CONNECT STARTER (NON-COMBINATION)

Model No.	3-Phase UL HP - MAX AMPS - SCIC															Contactor NEMA Size
	200VAC			208VAC			230VAC			460VAC			575VAC			
HP	A	kA	HP	A	kA	HP	A	kA	HP	A	kA	HP	A	kA		
SMS3R-S00-M	2	8	5	2	8	5	3	10	5	5	8	5	7.5	9	5	0
SMS3R-S0P-M	7.5	25	5	7.5	24	5	10	28	5	15	21	5	20	22	5	0+
SMS3R-S1P-M	15	48	5	15	46	5	15	42	5	30	40	5	30	32	5	1+
SMS3R-S2-M	20	62	5	20	59	5	25	68	5	40	52	5	50	52	5	2
SMS3R-S3-M	30	92	10	30	88	10	40	104	10	60	77	10	75	77	10	3
SMS3R-S3P-M	30	92	10	30	88	10	40	104	10	75	96	10	75	77	10	3+
SMS3R-S4-M	40	120	10	40	114	10	50	130	10	100	124	10	100	99	10	4
SMS3R-S4P-M	60	177	10	60	169	10	75	192	10	150	180	10	-	-	-	4+
SMS3R-S5-M	100	285	18	100	273	18	125	312	18	250	302	18	-	-	-	5
SMS3R-S5P-M	125	359	18	125	343	18	150	360	18	300	361	18	-	-	-	5+
SMS3R-S4P/6M	-	-	-	-	-	-	-	-	-	-	-	-	150	144	10	-
SMS3R-S5/6M	-	-	-	-	-	-	-	-	-	-	-	-	250	242	18	-
SMS3R-S5P/6M	-	-	-	-	-	-	-	-	-	-	-	-	300	289	18	-

OPTIONS (FACTORY INSTALLABLE)

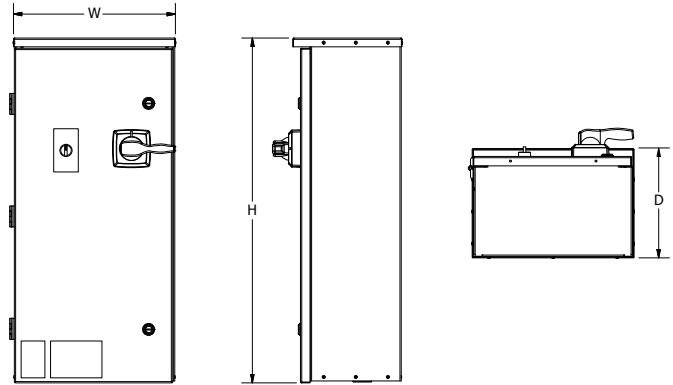
Model No.	Description
SMS-SRG	Surge Suppressor, Universal, Corner Grounded Delta Config.
SMS-SRG-240V	Surge Suppressor 240VAC, delta power configuration
SMS-SRG-480V	Surge Suppressor 480VAC, delta power configuration
SMS-SRG-600V	Surge Suppressor 600VAC, delta power configuration
SMS-HOA-KEY	Hand-Off-Auto Key Switch Option
SMS-STSP	Start/Stop Pushbutton Control in lieu of HOA switch
SMS-HOA-START	Start Pushbutton when HOA in HAND
SMS-CPT-100VA	100VA CPT to accommodate below options
SMS-CLK-120V*	120V, 7 Day, 24 Hour Programmable Clock
SMS-RPL-120V*	Factory Installed Run Pilot Light, Green, 120VAC
SMS-FPL-120V*	Factory Installed Fault Pilot Light, Red, 120VAC

*Options must be combined with SMS-CPT-100VA

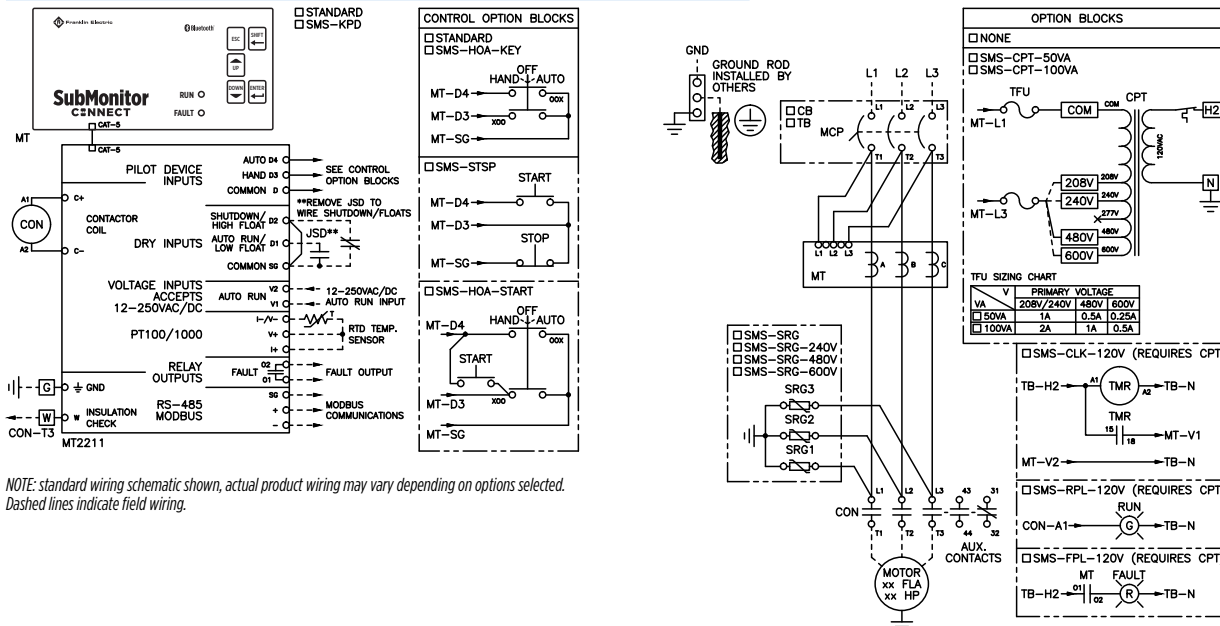
SMS SUBMONITOR CONNECT STARTER

DIMENSIONS

Starter	Dimensions (in)		
	H	W	D
SMS3R-S0-M-G15	22	15	8
SMS3R-S0-M-G20			
SMS3R-S0P-M-G30			
SMS3R-S1-M-G40			
SMS3R-S1P-M-G50			
SMS3R-S1P-M-G60			
SMS3R-S2-M-G80			
SMS3R-S2-M-G100			
SMS3R-S3-M-G100			
SMS3R-S3-M-G125			
SMS3R-S3P-M-G150	32	15	8
SMS3R-S4-M-G200			
SMS3R-S4-M-G250			
SMS3R-S5-M-G300			
SMS3R-S5-M-G400			
SMS3R-S5P-M-G500	42	25	15
SMS3R-S5P-M-G600			
SMS3R-S5P-M-G800			
SMS3R-S00-M	16	12	8
SMS3R-S0P-M			
SMS3R-S1P-M			
SMS3R-S2-M			
SMS3R-S3-M			
SMS3R-S3P-M	22	15	8
SMS3R-S4-M			
SMS3R-S4P-M			
SMS3R-S5-M			
SMS3R-S5P-M			
SMS3R-S5P-M	32	15	8
SMS3R-S5P-M			
SMS3R-S5P-M			
SMS3R-S5P-M			
SMS3R-S5P-M			
SMS3R-S5P-M	42	25	15
SMS3R-S5P-M			
SMS3R-S5P-M			
SMS3R-S5P-M			
SMS3R-S5P-M			



WIRING DIAGRAM



SMS SUBMONITOR CONNECT STARTER

SPECIFICATIONS

Starter Type		
Standard or combination (service rated, suitable for use as a service disconnect)		
NEMA Type 3R Enclosed Outdoor Rated		
User Interface		
Settings Adjustments	32 character, backlit NEMA 4X display	
	FE Connect Mobile App connected via Bluetooth	
Hand/Off/Auto	Door mounted 3-position switch	
Standard Control Operations		
Inputs	Voltage Auto	Accepts 12-250VAC/DC. Applying voltage will send a run command to the starter when in Auto Mode.
	Dry Contact Auto	Default: Normally Open. When active (closed between D1 and D), the SubMonitor will start the motor in Auto Mode.
	Low Float	Option: Used with D2 to make up float operation in fill or drain mode
	Dry Contact Shutdown	Default: When active (open between D2 and D), the SubMonitor will stop the motor in all modes.
	High Float	Option: Used with D1 to make up float operation in fill or drain mode
	RS-485	Modbus RTU slave
Output	PT100/1000	On/Off, adjustable: 0-100 C
	Fault Relay	Normally Open Relay Contact. 1Aa @ 240VAC 212 F
Operational	Overload Type	Electronic, Simulated I ² T trip curve
	Power Fail Modes	Restart in last mode (Hand/Off/Auto)
		Restart in off mode
	On/Off Time Delay	On/Off, adjustable: 1-60seconds
	Backspin Delay	On/Off, adjustable: 2 seconds - 60 minutes
	Fault Reset	Adjustable: manual or automatic (default differs per motor protection feature)
Starts	6/hour, 20 seconds max start time @ 400% FLA, 30 seconds max start time @ 300% FLA	
Environmental		
Ambient Operating Temp	-5 °F to 140 °F (-20 °C to 60 °C)	
Ambient Storage Temp	-5 °F to 185 °F (-20 °C to 85 °C)	
Relative Humidity	5% to 95% non-condensing	
Motor / Soft Starter Protection	Adjustment / Description	Default Setting
Overload Current Setting Range	Differs per model	Per SFA
Overload Trip Class	Adjustable: 5-30	10
Overload Service Factor	Adjustable: 1.00-2.00	1.15
Under Power (Dry Run)	On/Off/Alarm, adjustable: 1-99% of nominal	On / 65%
Over Power	On/Off/Alarm, adjustable: 101-200% of nominal	On / 125%
Under Voltage	On/Off/Alarm, adjustable: 80-99% of nominal	On / 90 %
Over Voltage	On/Off/Alarm, adjustable: 101-125% of nominal	On / 110 %
Voltage Phase Loss	Always on	On / Trips if below 60VAC
Ground Fault (UL 1053 Certified)	On/Off/Alarm, adjustable: 1-10 Amps	On / 1A
Cycle Fault	On/Off, Start Limit adjustable: 2-100	On
Warm Start Provision	On/Off, delays motor restart based on calculated motor temp	On
SMARTSTART™ Protection	Adjustment/Description	Default Setting
Current Phase Unbalance	On/Off, adjustable: 1-50%	On / 5%
Locked Rotor/Stall	On/Off, trips if current exceeds 300% max amps for 0.5s	On
Out of Calibration	On/Off, trips after 10 seconds if max amps setting is incorrect	Off
Max Time to Start	On/Off, regardless of max amps or I ² T trip curve, always trip at start if starting current is outside of an acceptable range and still decreasing after 10 seconds	