

Class 8940 "S2" Pumping Plant Panels in NEMA 3R enclosures are specifically designed for oil field applications. All panels are supplied with a MAG-GARD® circuit breaker or a visible blade, fused, disconnect switch. This line of pumping plant panels features:

- Rugged spring latches for easy access without a tool
- Side mounted control units for convenient operation
- Door retainer available for windy areas
- Price includes Hand-Off-Auto selector switch
- UL Listed for use as service equipment for motors
- Extra panel space for additional electrical controls
- All devices are UL Listed, and marked "SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT"

Thermal units must be ordered separately at \$14.30 each. See page 16-129 for selection information.

**NOTE:** Overload relays are ambient temperature compensated.



Type WC3S2V06



Type XE3S2V02B12S

**Table 16.246: 3-Pole Polyphase—480 Vac Maximum (50–60 Hz)**

Volts	Max. Hp Polyphase	Coil ▲ Voltage	NEMA Size	Fusible Disconnect Type			Circuit Breaker Type		
				Fuse Clip Amperes■	Type	\$ Price	Frame Size	Type	\$ Price
240	7-1/2	240–60 220–50	1	30	WC1S2V03	1406.	GJL36030M04	XC1S2V03	1485.
	10		2	60	WD1S2V03	1920.	GJL36050M05	XD1S2V03	1998.
	15			100	WE1S2V03	3099.	FAL3610018M	XD2S2V03	1998.
	30		4	200	WF1S2V03	5816.	FAL3610018M	XE1S2V03	3257.
	40						KAL3625026M	XF1S2V03	5975.
	50						KAL3625029M	XF2S2V03	5975.
480	7-1/2	480–60 440–50	1	30	WC3S2V06	1406.	GJL36015M03	XC3S2V06	1508.
	10						GJL36030M04	XC4S2V06	1508.
	15		2	60	WD3S2V06	1946.	GJL36030M04	XD3S2V06	2024.
	25						GJL36050M05	XD4S2V06	2024.
	50		3	100	WE3S2V06	3165.	FAL3610018M	XE3S2V06	3324.
	75						KAL3625025M	XF3S2V06	6024.
	100						KAL3625029M	XF4S2V06	6024.

▲ Coil voltage code must be supplied to order this product. See Coil Voltage Codes table to the left for codes.

■ Fuse clips are sized for use with dual-element time-delay fuses.

**Table 16.247: Factory Modifications (Forms)**

Description	Form Letter	\$ Price
Substitute Class 10 IEC overload relay – state motor hp (NEMA Sizes 0–4 only)	B12	No Charge
Control transformer with fused primary:		
Types:		
NPD, NPE, NPF, SSC, WC, XC (50 VA)	F4T	257.00
NPG, SSD, XD, WD (100 VA)		359.00
NPJ, SSE, XE, WE (150 VA)		531.00
SSF, XF, WF (300 VA)		645.00
SSG, NSG, XSG (50 VA and an interposing control relay)		731.00
Factory installed door wind latch assembly in a standard 8940NPD, NPE, NPF, NPG, NPJ, SSC, SSD, SSE and SSF	G45	75.00
Elapsed time meter	G97	551.00
Substitute Class 10 MOTOR LOGIC® SSOLR▼	H10	42.80
Time delay relay (specify ON or OFF delay)	K	798.00
Program timer with day omission feature	K141	798.00
Backspin timer (time delay upon energization)	K15	741.00
Start Pushbutton (S2 panels only)	A28	No Charge
"Slim" panel (Types WC, WD, WE, XC, XD, XE only)	L8	No Charge
"Short" panel (Types SSE, SSF, XE-S2 and XF-S2 only)	L9	No Charge
Pilot light (specify lens color). Does not include auxiliary contact.	P♦	224.00
Separate control	S	No Charge
Auxiliary contacts (specify N.O. or N.C.)	X★	105.00
Special UL panel label for modified UL Listed devices on non-standard panels, requires approval by manufacturing plant	Y1	179.00
Lightning arrester	Y1532	380.00
Phase failure, phase reversal relay with time delay including under and over voltage protection	R44	975.00
Substitute standard trip melting alloy overload relays	Y61	No Charge
Substitute quick-trip melting alloy overload relay (Sizes 1 and 2 only)	Y611	No Charge

♦ Indicate pilot light color as **Form P1** (red) or **Form P2** (green). See page 16-110, footnote Δ for more selections.

★ To determine the maximum number of auxiliary contacts which can be added to each Type S device and for the appropriate "X Form," refer to tables in the Class 8536 section.

▼ Motor Logic SSOLR are designed to protect 50/60 hertz three-phase AC motors from overload, phase unbalance and phase loss conditions. Open Delta systems or grounded B-phase systems are difficult to balance and could cause the Motor Logic SSOLR to trip. For applications of this nature, it is recommended that bi-metallic overload relays (Form B12) be used.

**Table 16.248: Coil Voltage Codes**

Voltage		Code	\$ Price Adder
60 Hz	50 Hz		
24Δ□	—	V01	N/C
120□	110□	V02	N/C
208□	—	V08	N/C
240	220	V03	N/C
—	380	V05	N/C
480	440	V06	N/C
600□	550□	V07	N/C
Specify	Specify	V99	23.70

Δ 24 V coils are not available on Size 4 starters. On Size 1–3, 24 V coils are available. **Form S** must be used.

□ **Form S** required for separate control.

For How to Order Information, see page 16-11.

**Class 8536**

**Type S C G - 3 V02**

**Form S**

**General Classification**

8502	Contactors
8536	Starter
8538	Combination Starter with Disconnect Switch
8539	Combination Starter with Circuit Breaker
8606	Reduced Voltage Autotransformer Starter
8630	Reduced Voltage Wye-Delta Starter
8640	Reduced Voltage Part-winding starter
8702	Reversing Contactor
8736	Reversing Starter
8738	Reversing Combination Starter with Disconnect Switch
8739	Reversing Combination Starter with Circuit Breaker
8810	Two Speed Starter▲
8940	Pumping Plant Panel▲
8941	Duplex Controller▲

**Design**

Type S NEMA Contactors and Starters

NEMA Size		8903	
A	Size 00	M	30 Amperes
B	Size 0	P	60 Amperes
C	Size 1	Q	100 Amperes
D	Size 2	V	200 Amperes
E	Size 3	X	300 Amperes
F	Size 4	Y	400 Amperes
G	Size 5	Z	600 Amperes
H	Size 6	J	800 Amperes
J	Size 7		

**Enclosure**

A	NEMA 12 Industrial Use
F	NEMA 1 Flush Mounting General Purpose
G	NEMA 1 General Purpose Surface Mounting
H	NEMA 3R Rainproof
O	Open Style Device (no enclosure)
R	NEMA 7 & 9 Hazardous Environments, Spin Top
T	NEMA 7 & 9 Hazardous Environments, Bolted
W	NEMA 4 Watertight, 4X Corrosion Resistant

**Numerals**

Used to designate specific, physical arrangements, such as number of poles, fuse clip size, etc.; but the numbering varies with Class of equipment. Consult Digest listings for specific device numbers.

**Voltage Code**

AC operated devices without control transformer

Code	Voltage/Frequency
V01	24/60
V02	120/60 or 110/50
V06	480/60 or 440/50
V07	600/60 or 550/50
V08	208/60

V81 - 480V Primary, 120V Secondary for units using a fused transformer control circuit Form (F4T).

This is only a partial listing consult Digest pages 16-12 and 16-111 for more information.

**Common Forms (factory modifications)**

A	"Start-Stop" pushbuttons in the enclosure cover
B■	Bimetallic overload relays
C	"Hand-Off-Auto" selector switch in the enclosure cover
F4T	Fused transformer control circuit (primary fuses only)
FF4T	Fused transformer control circuit (primary & secondary fuses)
H	Solid state overload relay
P1	Red pilot light in the enclosure cover
S	Separate control circuit
X01	One "normally closed" auxiliary contact N.C.
X10	One "normally open" auxiliary contact N.O.

Consult Digest pages 16-110 to 16-117 for additional form letters. When more than one form is applied to a single device, arrange Forms in alphabetical order.

- ▲ Combination two speed starters will replace the "S" with a "C", "U" or "D". Pumping plant panels have Various leading characters. Not all use Type S contactors. Duplex controllers use "N", "C", "U", and "D".
- May also designate Motor Logic Plus overload relay

**Table 16.31: How to Order**

To Order Specify:	Catalog Number			
	Class	Type	Voltage Code	Form(s)
<ul style="list-style-type: none"> <li>• Class Number</li> <li>• Type Number</li> <li>• Voltage Code</li> <li>• Form(s) see pages 16-110-16-117</li> </ul>	8539	SBG41	V06	AH20P1X11

Note: Description: NEMA Size 0, (1/4 to1 Hp) MAG-GARD Combo Starter in a NEMA Type 1 enclosure with a 480V coil, start/stop pushbutton, class 20 SSOLR, red pilot light, 1 N.O. and 1 N.C. auxiliary contact

**IMPORTANT - This information is intended for general interpretation of catalog numbers. Do not use to create catalog numbers for this product line.**

Note: The terms Type and Form do not appear in the catalog number.