

Features

Current Transformer (CT) inputs provide extreme versatility in a single unit.

Digitally programmable for precise customization.

Nine set points can be programmed for more protection.

Last fault memory provides instant troubleshooting diagnostics.

Both UL listed and CSA certified.

Can be ordered with an output jack for use with a remote display.

Four choices of control voltage provide the versatility needed to handle global applications.



MotorSaver
THREE-PHASE ELECTRIC
MOTOR PROTECTOR

Model 520CS
Current Monitor

**Engineered
Protection**

**Protects 3-Phase
motors from:**

- Overload
- Underload
- Current unbalance
- Single phase
- Rapid cycling
- Phase reversal

Additional features:

- Fully programmable
- UL listed & CSA certified
- Automatic or manual reset
- Alphanumeric LED diagnostic display
- Last fault diagnostics
- 1 year warranty
- Made in USA
- Remote reset capability
- Optional remote display output port

Model 520CS is a fully programmable, microcontroller-based, current sensing device designed to monitor three phase pumps. Unlike the Model 520CP which is designed to work with motors that have ramp up times of 4 seconds or less, the Model 520CS has a programmable motor acceleration time that can be set from 0-50 seconds.

Three external current transformers must be utilized in conjunction with the Model 520CS. The following 9 trip points can be set and viewed from the three digit alphanumeric LED: overcurrent trip point, undercurrent trip point, current unbalance trip point, trip delay, rapid cycle timer (RD1), overload restart delay (RD2), underload restart delay (RD3), number of starts after a fault, and motor acceleration time. Last fault diagnostics is also viewable. When a harmful condition is detected, the MotorSaver's output relay is deactivated after the specified trip delay. The output relay reactivates after the appropriate RD2 or RD3 timer has expired. Overcurrent, undercurrent, and current unbalance are ignored during the motor acceleration period, however, if the motor is started on a single phase or a phase reversal condition, the Model 520CS deactivates its output relay in 0.5 seconds.

The Model 520CS can be ordered with an output jack so that the unit can utilize a Model 520RD front panel remote display.(PN #520CS-RJ)

MotorSaver[®]

THREE-PHASE ELECTRIC
MOTOR PROTECTOR

Model 520CS Current Monitor

Specifications

Operating Points

Special Options

Ordering Information

Voltage	Remote Jack for 520RD
520CS • 115	• RJ
230	
460	
575	

Specifications

Control Voltage	100 to 130 VAC (MS520CS-115)
	200 to 250 VAC (MS520CS-230)
	400 to 500 VAC (MS520CS-460)
	550 to 600 VAC (MS520CS-575)

Frequency *50 or 60 Hz

Current Transformers Available from SymCom, Inc.

Maximum Full Scale Current 5 Amp Max.

Programmable Settings

- OC - Overcurrent Trip Point (Overload).....UC Trip Point to 5.00 Amps (0.02)
- UC - Undercurrent Trip Point0.00 to OC Trip Point (0.02)
- UB - Current Unbalance Trip Point2.0 to 50.0% (0.2)
- TD - Trip Delay2.0 to 50.0 sec. (0.2) for all faults except phasing - see inverse time curve for OC trip delay

•RD1 - Restart Delay on Power Up0 - 500 seconds (2)
(Rapid Cycle Timer)

•RD2 - Restart Delay After All Faults Except2 - 500 minutes (2)
Undercurrent (Motor Cool Down Timer)

•RD3 - Restart Delay after Undercurrent2 - 500 minutes (2)
(Dry Well Recovery Timer)

•#RF - Number of Restarts after All Faults0, 1, 2, 3, 4, or Unlimited = "999"
(except Undercurrent)

•MA - Motor Acceleration Time0.0 - 50.0 seconds (0.2)

Fixed Operating Points

•Reverse Phase Trip Delay0.5 sec.

•Single Phase Trip Delay0.5 sec.

Temperature Range0 - 70° C

Output Contact Rating480 VA at 240 VAC (Mod. -115, -230)

•(SPDT)470 VA at 600 VAC (Mod. -460, -575)

Transient Protection (Internal)2500 Volts for 10 mSec.

Power Consumption5 Watts (max)

Repeat Accuracy Trip Point± 2%

Repeat Accuracy Timing± 25%, ± 1 sec.

Weight2 lbs.

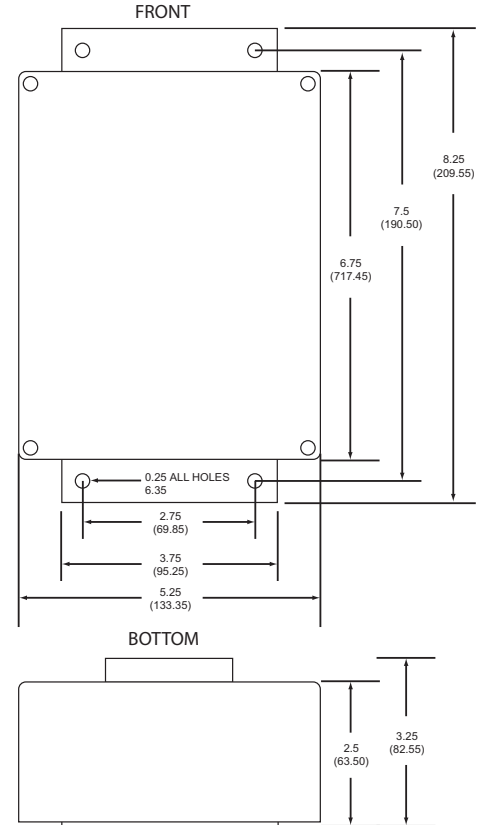
Options (additional cost)DPDT Relay Contacts

.....Remote Jack for Remote Display

*Note: 50 Hz will increase all delay timers by 20%.

SymCom warrants its microcontroller based products against defects in material or workmanship for a period of one (1) year from the date of manufacture. All other products manufactured by SymCom shall be warranted against defects in material and workmanship for a period of one (1) year from the date of manufacture. For complete information on warranty, liability, terms, returns, and cancellations, please refer to the SymCom Terms and Conditions of Sale document.

Current Transformer Selection Typical Three Phase Submersible Motors			
230 Volt HP	460 Volt HP	575 Volt HP	CT Size
	1/2-3/4		2.5:5
1/2-3/4	1-2	1 1/2-2	5:5
1-10	3-25	3-30	50:5
15-20	40-50	50-60	100:5
	60-75	75-100	150:5
	100	125	200:5
	125-150	150-200	300:5
	175-200		400:5



TYPICAL WIRING DIAGRAM FOR 520CS
(3 CURRENT TRANSFORMERS)

