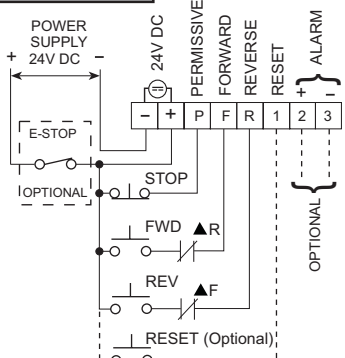


NEMA

Reversing Starter

Size 1

3-Wire Control



▲ FORWARD - STOP - REVERSE

Optional auxiliaries R & F are needed if a stop command is required before changing the motor direction.

R = N.C. logic level auxiliary contact (EMA70) attached to the reversing contactor.

F = N.C. logic level auxiliary contact (EMA70) attached to the forward contactor.

CONTROL POWER / 24 VOLTS DC ONLY

POWER REQUIRED PER DEVICE @ 20°C (68°F)

Inrush: 90 watts, 3.8 amps, 50 msec duration

Sealed: 3.6 watts, 0.15 amps

At other temperatures (T) in °C

Watts = $W_{20}[1.1 - .005(T)]$

Amps = $A_{20}[1.1 - .005(T)]$

Example: Inrush watts @ -25°C
 $90[1.1 - .005(-25)] = 110$ watts

24V DC POWER SUPPLY REQUIRED

Select supply based on power required per device
 Recommend Cutler-Hammer PS Series

24V DC CONTROLS REQUIRED

24V DC, 3-5mA

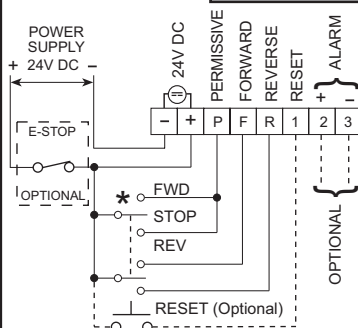
Recommend Cutler-Hammer Logic Level Series or contact blocks with reliability "nibs".

ALARM OUTPUT (optional)

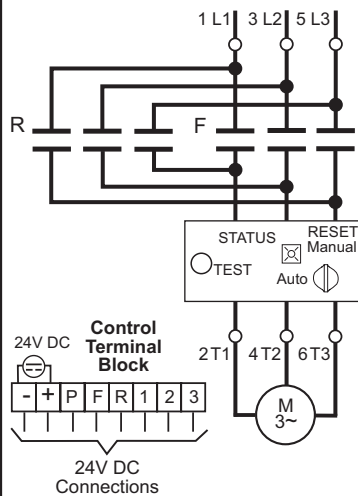
Open collector or emitter type
 24V DC @ 0.25 amps



2-Wire Control



* MAINTAINED ONLY
 2-WIRE REMOTE PILOT DEVICE



Note: Remove Control Terminal Block before wiring of T1, T2, & T3.

DISCONNECT AC POWER BEFORE WORKING ON THIS PRODUCT

AUXILIARY CONTACTS

Max. Qty.	Cat. No.	Description
6	EMA13	1 N.O.
6	EMA14	1 N.C.
4	EMA15	1 N.O. - 1 N.C.
4	EMA16	2 N.O.
4	EMA17	2 N.C.
6	EMA70	1 N.O.-1 N.C. (Logic)

CONTROL TERMINAL BLOCK

Wire	- +	P F R 1 2 3
1 per Terminal	1.5 - 2.5mm ² [14 - 12 Awg]	0.5 - 2.5mm ² [22 - 12 Awg]
2 per Terminal	1.5mm ² [14 Awg]	0.75 - 1.5mm ² [18 - 14 Awg]
Strip Length	Driver	Torque (Max.)
7mm [0.27 in]	3.5mm [1/8 in]	0.5 N-m [4.5 LB-IN]

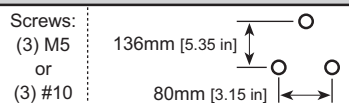
CONTROL CIRCUIT FUSEHOLDER

Cat. No. C320FB or C320FBR

L1, L2, L3 / T1, T2, T3

75°C Copper Wire only

MOUNTING HOLES



1 Wire per Terminal	1.5 - 16mm ² [14 - 4 Awg]	Torque per Wire (Max.)	Range
2 Wires per Terminal	1.5 - 16mm ² [14 - 6 Awg]	4.0 N-m [35 LB-IN]	1.5 - 6mm ² [14-10 Awg]
Strip Length	Driver	4.5 N-m [40 LB-IN]	10mm ² [8 Awg]
12mm [0.5 in]	Hex Key 3mm	5.0 N-m [45 LB-IN]	16mm ² [6-4 Awg]

AMBIENT TEMPERATURE

Operating: -40°C to 65°C [-40°F to 149°F]
 Storage: -50°C to 80°C [-58°F to 176°F]

SHORT CIRCUIT WITHSTAND RATING

UL 508 and CSA C22.2 No. 14-95

SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 5000 rms SYMMETRICAL AMPERES, 600 VOLTS MAXIMUM WHEN PROTECTED BY CLASS K5-FUSES, TIME DELAY FUSES PER NEC/CEC OR INVERSE-TIME CIRCUIT BREAKERS (THERMAL MAGNETIC).

pub50153 (A) Mar. 2002 - Also refer to pub50200 or www.cutler-hammer.eaton.com/it