Local and remote switching capability

The Eaton Power Defense™ motor operator enables local and remote ON, OFF and reset switching of a molded case circuit breaker. The motor operator is mounted on the circuit breaker cover within the dimensions of the circuit breaker. The new and improved design offers a wide range of voltages to maximize customer flexibility.

Features, functions and benefits

- Motor operator provides user-friendly breaker operation and status indication
- Allows the circuit breaker to be opened, closed or reset remotely
- New design features a stored energy mechanism that can be utilized in the auto function; the stored energy mechanism allows for faster closing times
- Two selectable motor charging modes: auto mode utilizing a motor and manual mode using a hand pump
- Visible, sealable clear cover allows for ease of access and adjustability of circuit breaker trip unit settings
- Charged/discharged and ON/OFF indications are clearly marked and visible from the front of motor operator
- Pull-out locking mechanism provides a method for padlocking the circuit breaker in the OFF position
- Locking device accepts three padlock shackles with a maximum diameter of 8 mm each
- Standard load transfer switching can be accomplished using two circuit breakers fitted with motor operators and a mechanical interlock

Standards and certifications

The motor operators are UL®/CSA® listed (E64124) and CE marked. The table on the following page provides electrical rating data for the motor operators—frames 2 through 4.

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Motor operator features

1. Charged/discharged indication
2. ON/OFF indication
3. Charging handle
4. Padlock provision
5. Push to ON
6. Push to TRIP
7. Manual/auto switch
8. Visible/sealable cover

Power Defense motor operator product selection

Frame	Voltage	Typical motor and solenoid inrush current (amperes)	Typical motor running current (amperes)	Typical closing time (ms)	Typical time of current flow to close (ms)	Typical opening time	Typical time of current flow to open	Typical duty cycle (per minute)	Catalog number	
									Trip unit type	
									PXR	Thermal-magnetic
PD2	24–30 Vdc	12	6	40	20	70 ms	1 second	2 full cycles	PDG2XROP24DC	PDG2XROPT24DC
	48–60 Vdc	7	3						PDG2XROP60DC	PDG2XROPT60DC
	100–130 Vac	4	1						PDG2XROP130AC	PDG2XROPT130AC
	125 Vdc	4	1						PDG2XROP125DC	PDG2XROPT125DC
	200–240 Vac	2	1						PDG2XROP240AC	PDG2XROPT240AC
	250 Vdc	2	1						PDG2XROP250DC	PDG2XROPT250DC
	380–440 Vac	2	1						PDG2XROP440AC	PDG2XROPT440AC
PD3	24–30 Vdc	18	9	40	20	1 second	2 seconds	1 full cycle	PDG3XROP24DC	
	48–60 Vdc	14	5						PDG3XROP60DC	
	100–130 Vac	8	4						PDG3XROP130AC	
	125 Vdc	6	2						PDG3XROP125DC	
	200–240 Vac	5	2						PDG3XROP240AC	
	250 Vdc	4	1						PDG3XROP250DC	
	380–440 Vac	3	2						PDG3XROP440AC	
PD4	24–30 Vdc	20	10	50	20	1 second	2 seconds	1 full cycle	PDG4XROP24DC	
	48–60 Vdc	16	4						PDG4XROP60DC	
	100–130 Vac	8	4						PDG4XROP130AC	
	125 Vdc	8	2						PDG4XROP125DC	
	200–240 Vac	5	3						PDG4XROP240AC	
	250 Vdc	4	2						PDG4XROP250DC	
	380–440 Vac	4	2						PDG4XROP440AC	

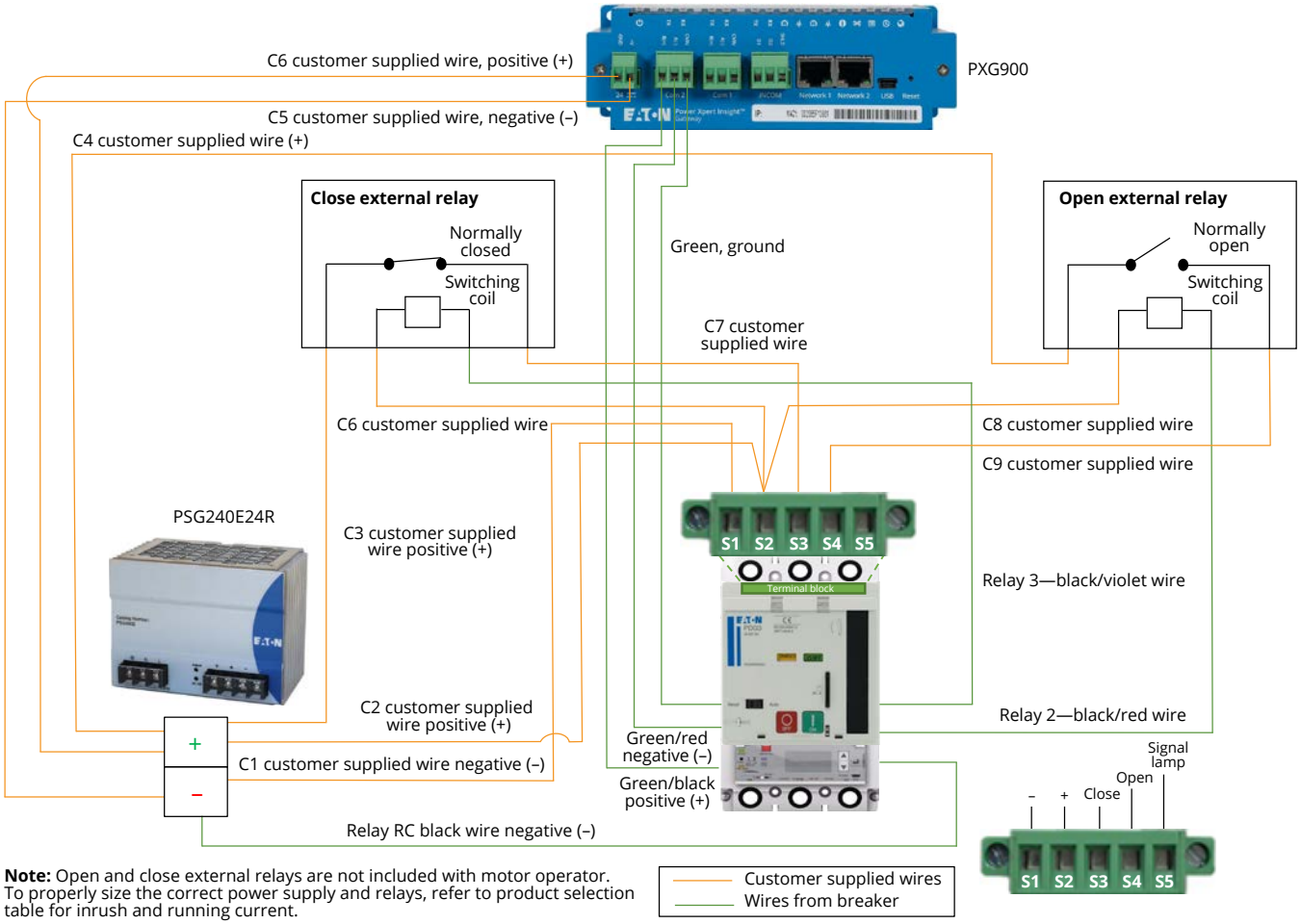
Endurance cycles (electrically operated)

Frame	Testing requirements		
	Typical tested endurance	IEC	UL
2 (Thermal-magnetic and PXR)	15,000	8,000	4,000
3	10,000	5,000	5,000
4	5,000	3,000	3,000

⚠ WARNING

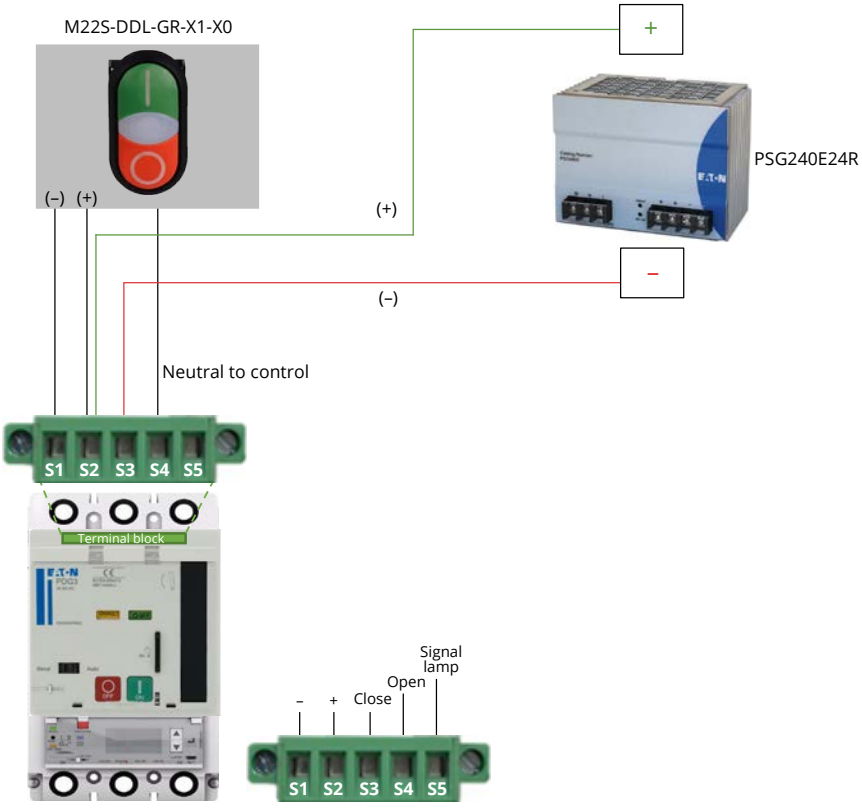
PLEASE ALLOW AT LEAST 3 SECONDS BETWEEN A FULL DUTY CYCLE.

PD3 PXR 25 with 24 Vdc motor operator control wiring example (communications control)

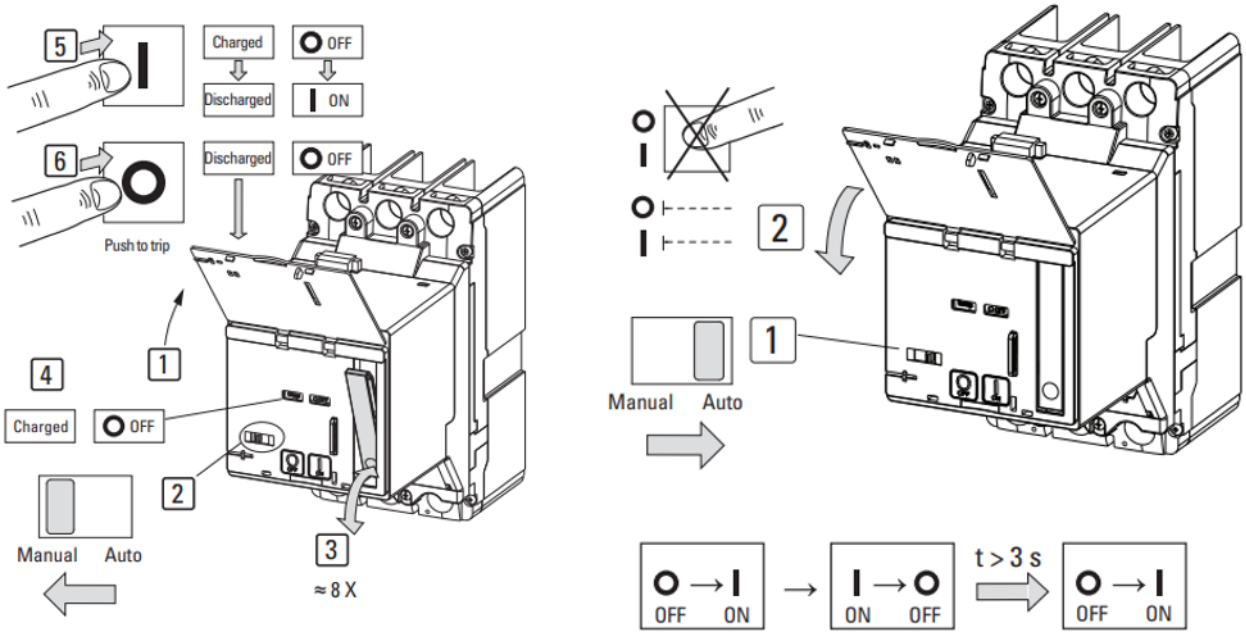


Note: Open and close external relays are not included with motor operator. To properly size the correct power supply and relays, refer to product selection table for inrush and running current.

PD3 PXR 25 with 24 Vdc motor operator control wiring example (pushbutton control)



Test sequence



Switching position indication on the front side

I ON	ON	The main contacts of the molded case circuit breakers are closed.
O OFF	OFF	The main contacts of the molded case circuit breakers are open.

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