

Magnelatch® Coil Option

Magnelatch® coil option eliminates power consumption and heat rise



General Description:

Solenoid valves are typically operated by an on/off coil that remains on, generates heat, and consumes power while operating. Power consumption can be a problem for continuous duty applications.

Parker Fluid Control Division offers a no power solution for your non-safety shut-off applications. This solution is the Magnelatch® coil option. This coil option is offered on the products in this section.

The Magnelatch® operator contains a permanent magnet that is shifted on (latched) or off (released) by a momentary electrical current pulse of approximately twenty milliseconds (.02 seconds).

The conventional solenoid valve is in one of two positions – off or de-energized, or on – energized. The Magnelatch® requires no continuous power thus the term latch position is used for on and release position for off. Valves with Magnelatch coils remain in their last energized position and do not return to their de-energized position in the event of a power outage.

Magnelatch coils are not available on valves for steam service.

Valves with Magnelatch coils have the same pressure rating as that valve with a 10 watt coil.



Specialty

Applications:

Instrumentation

No heat build up – eliminates constant calibrations and permits confinement and compactness.

Can be used with such sensors as thermistors and thermocouples.

Machine Tools

Operates with simple switches and eliminates holding relays and relayed circuitry required to sequence and position operations.

Remote Control Equipment

pulsing circuitry, low power consumption permit the use of Magnelatch® coils in many custom operations. Operation can be controlled by radio frequency or mechanical timer, etc.

Other Applications

- Medical equipment
- Transportation products
- Material handling equipment
- Solar panels
- Pilot valve on control valve (3-Way)
- Single acting Cylinder Actuation (3-way)
- Natural gas service



Wiring Circuits

Leads/Wires	Description
2	For use with standard duty DC power source

Pulse DC Operation

Minimum pulse for Latching is 10 milliseconds.
Minimum pulse for Releasing is 25 milliseconds.

Pulse Coils - Current Draw

Latch	Release
12v DC Latch 2.10 amps.	Release 1.95 amps.

Maximum "ON" time is 5 minutes with minimum "OFF" time 40 minutes. If the "ON" time is of a shorter duration, the "OFF" time would be shorter proportionally.

2-Way Direct Acting Normally Closed Stainless Steel

Port Size NPT	Orifice Size in.		Cv Flow Factor		Operating Pressure		Max. Fluid Temp. °F	Seal	DC Watt	Voltage	Wire	Enclosure	Pressure Vessel Number	
	IN	Exhaust	IN	Exhaust	Min.	Air, Inert Gas								
DC	1/8	3/64	N/A	0.06	N/A	0	450	185	NBR	18	24VDC	2	Grommet	71215SN1ENP6M2J011C2

3-Way Direct Acting Normally Closed Stainless Steel

Port Size NPT	Orifice Size in.		Cv Flow Factor		Operating Pressure (PSI)		Max. Fluid Temp. °F	Seal	DC Watt	Voltage	Wire	Enclosure	Pressure Vessel Number
	IN	Exhaust	IN	Exhaust	Min.	Air, Inert Gas, Water, Light Oil							
1/8	3/64	1/16	0.06	0.09	0	250	185	FKM	18	24VDC	2	Grommet	71315SN1EVJ1M2J011C2
1/4	3/64	1/16	0.06	0.09	0	250	185	NBR	18	12VDC	2	½" Conduit	71315SN2ENJ1M1J011C1
1/4	1/16	1/16	0.11	0.09	0	200	185	NBR	18	12VDC	2	½" Conduit	71315SN2GNJ1M1J011C1
1/4	3/32	3/32	0.17	0.17	0	125	185	NBR	18	12VDC	2	½" Conduit	71315SN2KNM5M1J011C1*
1/4	3/64	1/16	0.06	0.09	0	235	77	FKM	15	24VDC	3	Hazardous	X5RBM66890DC2A4K
1/4	1/16	1/16	0.11	0.09	0	100	77	NBR	16	12VDC	2	Hazardous	X53RBM2100DC1A9J
1/4	1/16	1/16	0.11	0.09	0	100	77	NBR	16	24VDC	2	Hazardous	X53RBM2100DC2A0K
1/4	1/8	3/32	0.23	0.17	0	50	77	NBR	16	12VDC	3	Hazardous	X5RBM64640DC1A3K

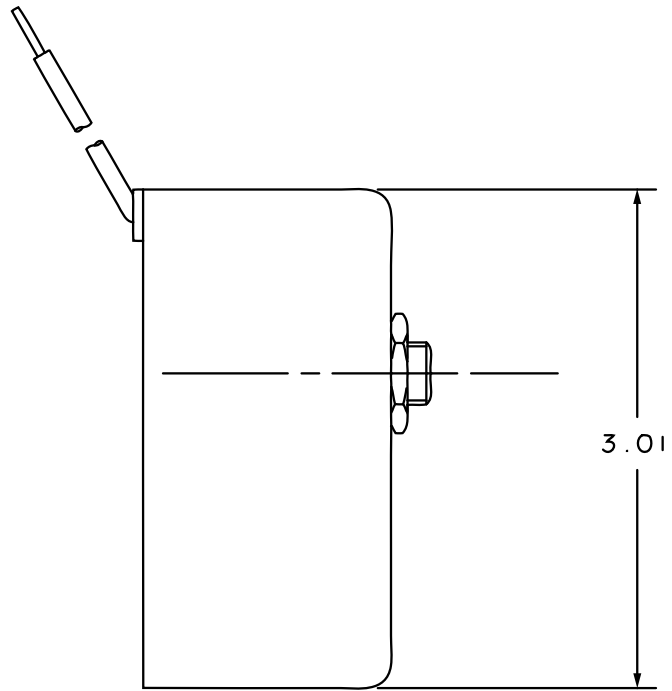
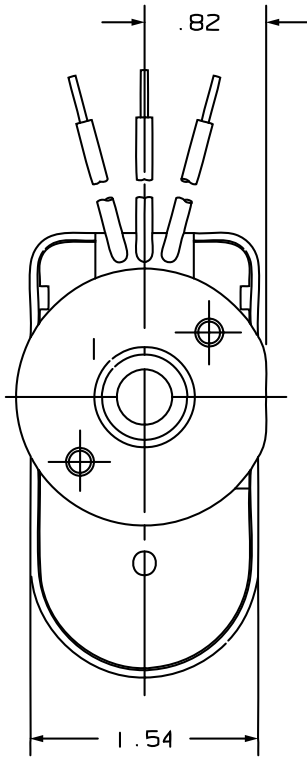
* Valve includes manual override as a standard feature

3-Way Direct Acting Universal Stainless Steel

Port Size NPT	Orifice Size in.		Cv Flow Factor		Operating Pressure		Max. Fluid Temp. °F	Seal	DC Watt	Voltage	Wire	Enclosure	Pressure Vessel Number
	N.C.	N.O.	N.C.	N.O.	Min.	Air, Inert Gas							
1/4	1/16	1/16	0.10	0.10	0	125	77	NBR	15	12VDC	3	Hazardous	X5RBM55740DC1A3K
1/4	1/16	1/16	0.10	0.10	0	125	77	NBR	15	24VDC	3	Hazardous	X5RBM55740DC2A4K
1/4	1/16	1/16	0.10	0.10	0	115	185	NBR	18	12VDC	3	½" Conduit	71335SN2GNJ1M1G011C1
1/4	3/32	3/32	0.17	0.17	0	80	185	NBR	18	12VDC	2	½" Conduit	71335SN2KNJ1M1J011C1



Valve Reference D52



Note: Shown for coil/enclosure dimensional reference only.

Coil Kits	Wire	DC Voltage
M1J011C1	2	12
M2G011C1	3	12
M2G011C2	3	24

AC voltage Magnelatch coils are available, although minimum order quantities may apply. Consult factory for further information.

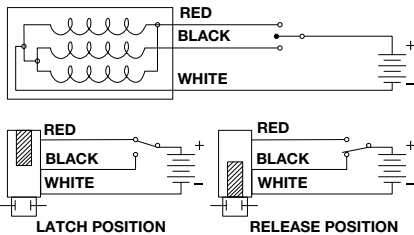
Pulse DC Operation

Minimum pulse for Latching is 10 milliseconds. Minimum pulse for Releasing is 24 milliseconds

Maximum "ON" time is 5 minutes with minimum "OFF" time 40 minutes. If the "ON" time is of a shorter duration, the "OFF" time would be shorter proportionally.

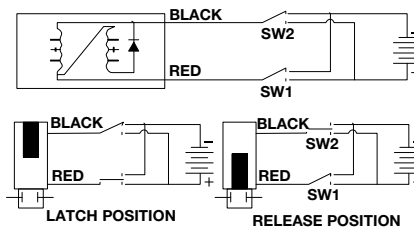
3 wire - Pulse Power Source

MAGNELATCH® WIRING SCHEMATIC



2 wire - Standard Duty Power Source

MAGNELATCH® WIRING SCHEMATIC



Latch	Release
12VDC Latch 2.10 amps	Release 1.95 amps
24VDC Latch 1.22 amps	Release 1.21 amps

Voltage	Nominal Values Pulse Duration for Momentary Operation (Milliseconds)		Nominal Values Current Drain in Amperes	
	Latch	Release	Latch	Release
12VDC	10	12	1.40	.75
24VDC	10	25	0.710	0.380

