

Dold Series Force Guided Relays



HC3096N-48-900-24



HL3096N-18-900-24



HC3096N-102-24



HL3096N-102-24



OA5611-48-24



OA5612-18-24

Overview

Force guided relays are constructed such that it is not possible for all contacts to be closed at the same time. Dold force guided relays have at least one N.C. contact set and one N.O. contact set. If an N.O. contact fails when trying to open, the associated N.C. contact cannot close when the power supply is switched off.

Force guided relays offer a cost and space saving alternative to contactors while providing simple contact monitoring via a forcibly guided N.C. contact.

Features

- Large wire cross-section (12-24 AWG) reduces thermal load on wires
- Polarity protection diode
- 35mm DIN rail mounting per IEC/EN 60715
- No mounting restrictions
- Available as plug and socket, or integrated module
- Module version possesses LED for indication
- Available in 4PST and 6PST configurations



Force Guided Relay Selection Guide

Part Number	Price	Drawing Links	Type	Coil Voltage	Configuration	Contact Rating	Compatible Relay Socket
HC3096N-48-900-24		PDF	Module	24VDC	4PST	5A	NA
HC3096N-52-900-24		PDF	Module		4PST		HC3096N-102-24
OA5611-48-24		PDF	Relay		4PST		
OA5611-52-24		PDF	Relay		4PST		
HL3096N-18-900-24		PDF	Module		6PST	5A	NA
HL3096N-50-900-24		PDF	Module		6PST		
HL3096N-54-900-24		PDF	Module		6PST		
HL3096N-60-900-24		PDF	Module		6PST		
OA5612-18-24		PDF	Relay		6PST	5A	HL3096N-102-24
OA5612-50-24		PDF	Relay		6PST		
OA5612-54-24		PDF	Relay		6PST		
OA5612-60-24		PDF	Relay		6PST		

Relay Sockets

Part Number	Price	Drawing Links	Type	Maximum Screw Torque	Maximum Wire Sizes	Weight
HC3096N-102-24		PDF	Socket	All terminals: 4.4 in-lbs/0.5 N·m	All terminals: 12 to 24 AWG	45g (1.59 oz)
HL3096N-102-24		PDF	Socket	All terminals: 4.4 in-lbs/0.5 N·m	All terminals: 12 to 24 AWG	63g (2.22 oz)

Dold Force Guided Relays

Force Guided Relay Specifications for 4PST Relays					
Part Number		HC3096N-48-900-24	HC3096N-52-900-24	OA5611-48-24	OA5611-52-24
General Specifications					
Service Life		Mechanical: 50 million operations Electrical: 200,000 operations @ rated resistive load			
Temperature Rating	Operating	-40 to 55°C (-40 to 131°F)			
	Storage	-40 to 70°C (-40 to 158°F)			
Operational Maximum Relative Humidity		93% at 40°C			
Response Time	Operate	20ms			
	Release	6ms			
Vibration Resistance		0.35 mm at 10–55 Hz			
Shock Resistance		Category 1, Class B, IEC/EN 61373			
Weight		71g (2.5 oz)		33g (1.16 oz)	
Agency Approvals and Standards		UL file E146415			
NEMA B300 Pilot Duty Rated		Yes			
Coil Specifications					
Coil Input Voltage		24VDC			
Coil Resistance		820Ω			
Power Consumption		0.6 W			
Dropout Voltage		1.2 VDC			
Pull-in Voltage		19.8 VDC			
Max. Voltage (Max. continuous voltage)		26.4 VDC			
Contact Specifications					
Contacts		3 N.O. / 1 N.C.	2 N.O. / 2 N.C.	3 N.O. / 1 N.C.	2 N.O. / 2 N.C.
Contact Material		AgNi + 0.2μ Au			
Minimum Switching Requirement		10V AC/DC - 10mA			
Contact Rating		Refer to Contact Ratings table below			
Dielectric Strength Between Contacts		4kV			
IP Rating		Housing: IP 40 IEC/EN 60 529 Terminals: IP 20 IEC/EN 60 529			
Housing Material		Thermoplastic			

Force Guided Relay Contact Ratings (current)			
Contact Type	Voltage	AC15	DC13
N.C.	24VDC	-	4A
N.O.	24VDC	-	4A
N.C.	230VAC	2A	-
N.O.	230VAC	3A	-

Dold Force Guided Relays

Force Guided Relay Specifications for 6PST Relays									
Part Number		HL3096N-18-900-24	HL3096N-50-900-24	HL3096N-54-900-24	HL3096N-60-900-24	OA5612-18-24	OA5612-50-24	OA5612-54-24	OA5612-60-24
General Specifications									
Service Life		Mechanical: 50 million operations Electrical: 200,000 operations @ rated resistive load							
Temperature Rating	Operating	-40 to 55°C (-40 to 131°F)							
	Storage	-40 to 70°C (-40 to 158°F)							
Operational Maximum Relative Humidity		93% at 40°C							
Response Time	Operate	20ms							
	Release	6ms							
Vibration Resistance		0.35 mm at 10–55 Hz							
Shock Resistance		Category 1, Class B, IEC/EN 61373							
Weight		90g (3.17 oz)				63g (2.22 oz)			
Agency Approvals and Standards		UL file E146415							
NEMA B300 Pilot Duty Rated		Yes							
Coil Specifications									
Coil Input Voltage		24VDC							
Coil Resistance		650Ω							
Power Consumption		0.8 W	1.0 W	0.8 W	0.8 W	0.8 W	1.0 W	0.8 W	0.8 W
Dropout Voltage		1.2 VDC							
Pull-in Voltage		19.8 VDC							
Max. Voltage (Max. continuous voltage)		26.4 VDC							
Contact Specifications									
Contacts		3 N.O. / 3 N.C.	2 N.O. / 4 N.C.	4 N.O. / 2 N.C.	5 N.O. / 1 N.C.	3 N.O. / 3 N.C.	2 N.O. / 4 N.C.	4 N.O. / 2 N.C.	5 N.O. / 1 N.C.
Contact Material		AgNi + 0.2μ Au							
Minimum Switching Requirement		10V AC/DC - 10mA							
Contact Rating		Refer to Contact Ratings table below							
Dielectric Strength Between Contacts		4kV							
IP Rating		Housing: IP 40 IEC/EN 60 529 Terminals: IP 20 IEC/EN 60 529							
Housing Material		Thermoplastic							

Force Guided Relay Contact Ratings (current)			
Contact Type	Voltage	AC15	DC13
N.C.	24VDC	-	4A
N.O.	24VDC	-	4A
N.C.	230VAC	2A	-
N.O.	230VAC	3A	-