

RELAYS & CONTACTORS

FUNCTIONAL DEVICES RELAY IN A BOX RIB, RIBT PILOT SERIES



DESCRIPTION

The **Relay In A Box (RIB) Pilot Series** from Functional Devices controls most BAS, HVAC, low-horsepower motor and lighting applications. The relays come mounted and pre-wired in a housing, saving the installer the time, trouble, and expense of buying separate components (relay, socket, mounting rail, and enclosure) and assembling them on the job or at the shop.

The **RIB Pilot Series** has a protruding 1/2" or 3/4" NPT nipple from which all wires exit (except T series). To install, remove a conduit knockout in the equipment, insert the wires and nipple through the hole, tighten the locknut, and connect the wires.

RIB Pilot Series - 10A Relays

The **RIB Pilot Series** has relay contacts rated for 10A and is used to control light electrical loads, drive power relays/contactors, or sense the voltage being fed to electrical loads. The **RIB Pilot Series** requires a low coil-drive current and is provided with circuitry to allow powering the relay coil from a wide range of AC or DC voltages.

RIBT Series - High/Low Voltage Separation

The **RIBT Series** is designed to provide physically separate entrances for connections to the relay input coil and output contacts. Relay contact wires exit the housing through a 1/2" or 3/4" NPT nipple. The cover of the **RIBT Series** is removable, and the coil drive wires can enter the housing through one of two convenient openings with star bushings or 1/2" conduit. The coil drive wires are secured to screw terminals within a separate wiring compartment in the **RIBT Series**. Most of the **RIB's** in the **Pilot Series** are also available in the **RIBT Series**.

Functional Devices, Inc. **RIB**



RIBU1C



RIBU1S



FEATURES

- Convenient and economical to use
- Relay status indicator via LED
- Coil uses low current and accepts a wide range of AC and DC voltages
- Closed/Open/Auto switch option available
- Nipple- or screw-mountable
- Compact, gray plastic enclosure
- Color-coded wires for eliminating errors
- UL listed for UL916 Energy Management and UL864 Fire
- Made in the USA

SPECIFICATIONS - GENERAL																														
Frequency	50/60 Hz																													
Wire Length	16" (40.6 cm)																													
Life Rating	10 million cycles minimum mechanical																													
Relay Status	LED, ON - relay activated																													
Operating Temperature	-30° to 140°F (-34° to 60°F)																													
Operating Humidity	5-95% RH non-condensing																													
Housing Type	Plenum rated, NEMA 1, NEMA 4																													
Conduit Hub	1/2" NPT, 3/4" NPT																													
Dimensions																														
A size enclosures	1.7" H x 2.8" W x 1.5" D (4.32 x 7.11 x 3.81 cm)																													
B size enclosures	4.0" H x 4.0" W x 1.8" D (10.16 x 10.16 x 4.57 cm)																													
G size enclosures	2.3" H x 3.2" W x 1.8" D (5.84 x 8.13 x 4.57 cm)																													
Approvals	UL listed, UL 916 Energy Management UL 864 Fire, cUL listed, CSFM, UL File S7312																													
Warranty	1 year																													
Coil pull-in/drop-out (nominal values)																														
	<table border="1"> <thead> <tr> <th rowspan="2">COIL DRIVE</th> <th colspan="2">PULL-IN</th> <th colspan="2">DROP-OUT</th> </tr> <tr> <th>DC</th> <th>AC</th> <th>DC</th> <th>AC</th> </tr> </thead> <tbody> <tr> <td>10-30 VAC/VDC</td> <td>10</td> <td>9</td> <td>2.8</td> <td>2.1</td> </tr> <tr> <td>24 VAC/VDC</td> <td>20</td> <td>18</td> <td>3.8</td> <td>3</td> </tr> <tr> <td>120 VAC</td> <td>-</td> <td>102</td> <td>-</td> <td>9</td> </tr> <tr> <td>208-277 VAC</td> <td>-</td> <td>176</td> <td>-</td> <td>13</td> </tr> </tbody> </table>	COIL DRIVE	PULL-IN		DROP-OUT		DC	AC	DC	AC	10-30 VAC/VDC	10	9	2.8	2.1	24 VAC/VDC	20	18	3.8	3	120 VAC	-	102	-	9	208-277 VAC	-	176	-	13
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FUNCTIONAL DEVICES RELAY IN A BOX

RIB, RIBT PILOT SERIES

SPECIFICATIONS - PILOT SERIES									
MODEL	TYPE	COIL DRIVE	SIZE/HUB	OVR SW	RELAY CONTACT RATINGS	RELAY CONTACT WIRING	RELAY COIL DRIVE DATA		
RIBU1C* RIBU1C-N4†	1-SPDT	10-30 VAC/VDC 120 VAC 50/60 Hz	A-1/2	-	10A resistive 120/240/277 VAC 10A resistive 28 VDC 480 VA pilot duty 240/277 VAC 480 VA ballast 277 VAC 600W tungsten 120 VAC N.O. 240W tungsten 120 VAC N.C.	Relay #1 NC (blue) COM (yellow) NO (orange)	Wiring Relay #1 Common - White/Yellow wire 10-30 VAC/VDC - White/Blue wire 120 VAC - White/Black wire 208-277 VAC - White/Brown wire Relay #2 (if present) Common - White/Purple wire 10-30 VAC/VDC - Gray/White wire 120 VAC - White/Red wire 208-277 VAC - White/Orange wire Input Current 30 mA @ 10 VAC 32 mA @ 12 VAC 42 mA @ 24 VAC 50 mA @ 30 VAC 25 mA @ 120 VAC 35 mA @ 208-277 VAC		
RIBU2C*	2-SPDT		G-3/4	-	1/3 hp for N.O. 120/240 VAC 1/6 hp for N.C. 120/240 VAC 1/4 hp for N.O. 277 VAC 1/8 hp for N.C. 277 VAC	Relay #2 (if present) NC (gray) COM (purple) NO (brown)			
RIBH1C* RIBH1C-N4†	1-SPDT		A-1/2	-					
RIBH2C*	2-SPDT		G-3/4	-					
RIBU1SC*	1-SPDT	10-30 VAC/VDC 120 VAC 50/60 Hz	G-1/2	Yes-2	10A resistive 277 VAC 480 VA pilot duty 277 VAC 480 VA ballast 277 VAC 600W tungsten 120 VAC N.O. 240W tungsten 120 VAC N.C. 1/3 hp for N.O. 120-240 VAC 1/6 hp for N.C. 120-240 VAC 1/4 hp for N.O. 277 VAC 1/8 hp for N.C. 277 VAC Status Contact on RIBU1SM and RIBH1SM: 5A max @ 277 VAC		Wiring Common - White/Yellow wire 24 VAC/VDC - White/Blue wire 120 VAC - White/Black wire 208-277 VAC - White/Brown wire Input Current 24 mA @ 18 VAC 20 mA @ 20 VDC 32 mA @ 24 VAC 24 mA @ 30 VDC 40 mA @ 30 VAC 36 mA @ 30 VDC 31 mA @ 120 VAC (RIB2401D) 36 mA @ 208-277 VAC (RIB2402D)		
RIBH1SC*	1-SPDT	10-30 VAC 208-277 VAC 50/60 Hz	G-1/2	Yes-2					
RIBU1S*	1-SPST-NO**	10-30 VAC/VDC 120 VAC 50/60 Hz	G-1/2	Yes				Relay #1 (orange) Closed (orange) Open Auto	
RIBU2SC	1-SPST-NO** 1-SPDT		G-3/4	Yes				Relay #2 of RIBU2S2 Closed (brown) Open (brown) Auto	
RIBU2S2	2-SPST-NO**		B-3/4	Yes-2				Relay #2 of RIBU2SC NC (gray) COM (purple) NO (brown)	
RIBU1SM	1-SPST-NO**	10-30 VAC/VDC 208-277 VAC 50/60 Hz	G-1/2	Yes + Status				STATUS = 2nd Pole of switch of RIBU1SM, RIBH1SM Closed (brown) Open (purple) Auto (gray)	12 mA @ 10 VDC 14 mA @ 12 VDC 16 mA @ 24 VDC 18 mA @ 30 VDC
RIBH1S*	1-SPST-NO**		G-1/2	Yes					
RIBH1SM	1-SPST-NO**	G-1/2	Yes + Status						
RIB2401D* RIB2401D-N4†	1-DPDT	24 VAC/VDC 120 VAC 50/60- Hz	A-1/2	-		10A resistive 30 VDC 10A resistive 277 VAC 1/2 hp for N.O. 120/240 VAC 1/3 hp for N.C. 120/240 VAC		NC (blue) COM (yellow) NO (orange)	Wiring Common - White/Yellow wire 24 VAC/VDC - White/Blue wire 120 VAC - White/Black wire 208-277 VAC - White/Brown wire Input Current 24 mA @ 18 VAC 20 mA @ 20 VDC 32 mA @ 24 VAC 24 mA @ 30 VDC 40 mA @ 30 VAC 36 mA @ 30 VDC 31 mA @ 120 VAC (RIB2401D) 36 mA @ 208-277 VAC (RIB2402D)
RIB2402D RIB2402D-N4†	1-DPDT	24 VAC/VDC 208-277 VAC 50/60 Hz	A-1/2	-		10A resistive 30 VDC 10A resistive 277 VAC 180 VA pilot duty 120 VAC 1/8 hp for N.C. 120 VAC		NC (gray) COM (purple) NO (brown)	
RIBL3C	3-SPSTNO	10-30 VAC/VDC 50/60 Hz	B-1/2	-	10A resistive 120-277 VAC 10A resistive 28 VDC 480 VA pilot duty 240-277 VAC 480 VA ballast 277 VAC 600W tungsten 120 VAC N.O. 240W tungsten 120 VAC N.C. 1/3 hp for N.O. 120-240 VAC 1/6 hp for N.C. 120-240 VAC 1/4 hp for N.O. 277 VAC 1/8 hp for N.C. 277 VAC	Relay #1 (black) (black)	Wiring Common - White/Red wire Relay#1 - White/Black wire Relay#2 - White/Blue wire Relay#3 - White/Yellow wire Relay#4 - White/Brown wire (if present) Input Current 30 mA @ 10 VAC 12 mA @ 10 VDC 32 mA @ 12 VAC 14 mA @ 12 VDC 42 mA @ 24 VAC 16 mA @ 24 VDC 50 mA @ 30 VAC 18 mA @ 30 VDC		
RIBL4C	3-SPSTNO 1-SPDT		B-1/2	-		Relay #2 (blue) (blue)			
						Relay #3 (yellow) (yellow)			
						Relay #4 (if present) NC (gray) COM (purple) NO (brown)			
SIB02S	SPDT Manual Switch	-	A-1/2	Yes	Switch ratings 20A 277 VAC	(blue) (yellow) (orange)	No Relay Switch Only		

NOTE: See previous page for dimensions for A, B, and G Enclosures

ORDERING INFORMATION

Order by model number

* Models may be ordered in RIBT Series with high/low voltage separation.

** Can be ordered normally closed by adding - NC after model number.

† N4 has NEMA 4 housing