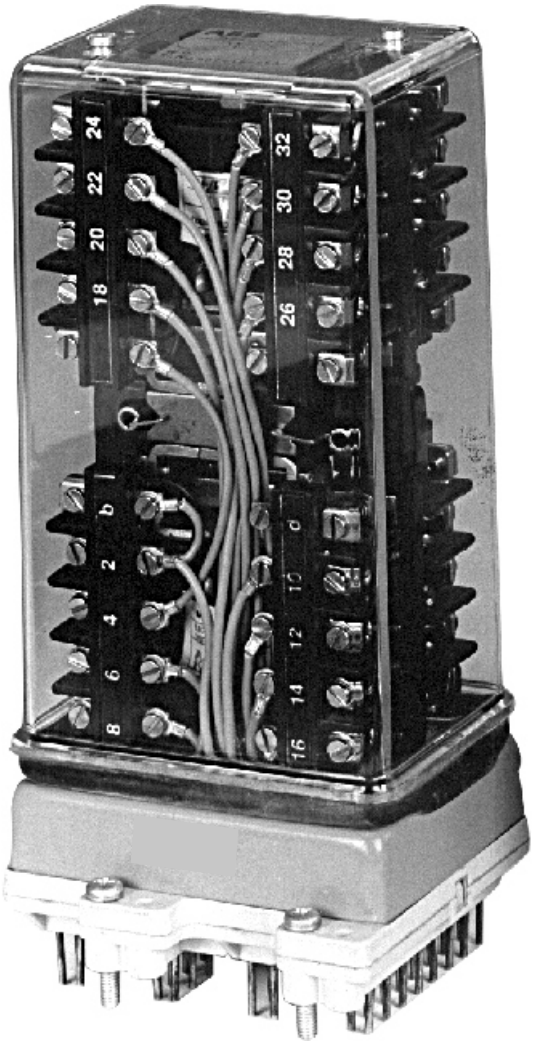
Station
Automation
& Protection

Bistable Relay

Types RXPSU6n, RXPSU14n



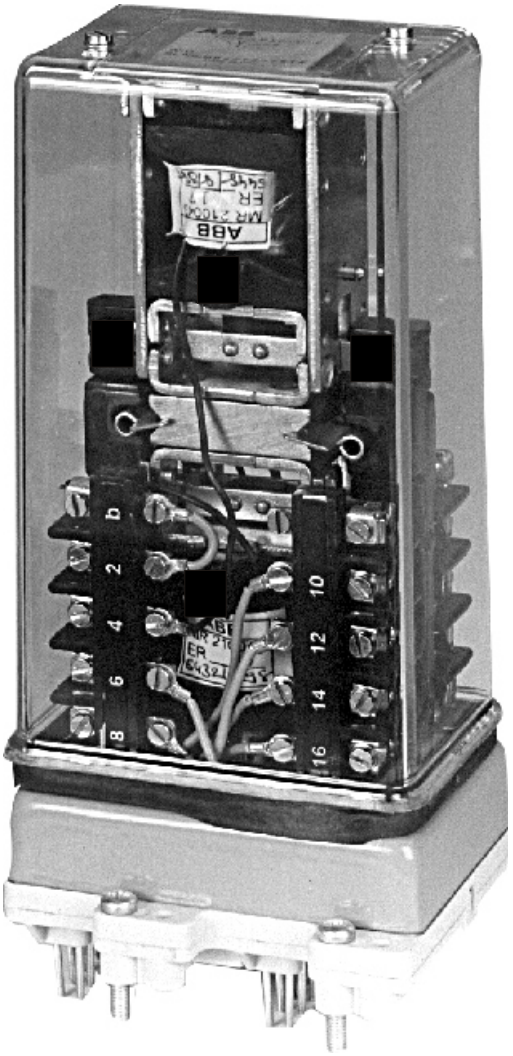


ABB Substation Automation Products

ABB

Features

- High degree of reliability, even when it has been idle for a long time
- RXPSU14n is with mechanical flag type indicator
- 6 / 14 contacts with double interruption
- Contact configuration can be changed with ease
- Wide range of voltage and contact configuration

Application

For remote and automatic control there is often a need for contactors which have two stable contact positions, even in the dead state. This requirement is fulfilled by changeover contactors type RXPSU...n. The application of alternate control pulses to the coils cause the contacts to change from the one state to the other. If the supply is interrupted, the contacts remain in their previous position, even when the voltage is restored.

Design and principle

The bistable relays in the COMBIFLEX system, type RXPSU6n and RXPSU14n are composed of the same constructional elements as the established contactors type P8n. Two magnet systems are interconnected by a pivoted element. In the type RXPSU6n... with 6 free contacts, only one system has contacts; in type PSU14n.. with 14 free contacts, both systems have contacts. In each case two contacts are required for changing over the connection of the coils.

The contacts are arranged symmetrically on both sides of the relay coil and armature assembly in two stacks. They are easily accessible and the conversion from N/C to N/O contacts and vice versa is simple. The maximum rated voltage is 250V d.c.or a.c. and the material used is hard silver.

The following definitions apply for reset and operate condition; reset condition - Armature assembly position is away from the base i.e. the upper system has been pulsed and lower system is ready to be pulsed. The flag strips are invisible i.e. white during this condition. Operate condition - Armature assembly position is closer to the base i.e. the lower system has been pulsed and upper system is ready to be pulsed. The flag strips are visible i.e. red during this condition.

A transparent, incombustible cover with a gasket protects the contacts against dirt. The terminals of the contact stacks themselves permit two wires of 1.5mm diameter maximum to be secured. Changeover relays must always be mounted with the contact post horizontal, that is with the base on a vertical surface. The plug-in relay module occupies two seats (2u 12C).

Type designation of auxiliary relays:

RXPSU		Basic relay with combiflex mounting.
	6n	with 6 free contacts and without operation indicator
	14n	with 14 free contacts and operation indicator

Technical data

Energizing quantities, rated values and limits

Rated voltage U_N	:	24, 30, 48, 110, 125, 220, 250 V DC
Operative voltage range	:	+10%, -20%
Permitted ambient temperature range	:	0 Deg C to +55 Deg C
Pick-up voltage ($\%U_N$)	:	< 80%
Pick-up time at U_N (typical)	:	20-40 m sec
Maximum power consumption at the instant of switching	:	65 W
Mechanical durability tested acc to IEC 255	:	1 x 10^6 switching operations, 200 Draw-out / Plug-in operations
Weight		
Type RXPSU6n	:	1.3 Kg. approx.
Type RXPSU14n	:	1.5 Kg. approx.

Contact data

Contact configuration		
Type RXPSU14n	:	7N/O+7N/C, 8N/O+6N/C, 9N/O+5N/C, 10N/O+4N/C, 11N/O+3N/C, 12N/O+2N/C, 13N/O+ 1N/C or 14NO
Type RXPSU6n		3N/O+3N/C, 4N/O+2N/C, 5N/O+ 1N/C or 6NO

Technical data (cont'd.)

Maximum voltage within contacts system : 250V dc/ac
Rated current : 5 A
Max. making current : 50 A
Max. Breaking capacities

Voltage	24V		48V		110V		250V		
Contacts	1	2 in parallel	1	2 in parallel	1	2 in parallel	1	2 in parallel	2 in series
DC resistive load	5A	10A	5A	10A	5A	7A	1A	-	5A
DC inductive. L/R =15ms	5A	10 A	5 A	8 A	4 A	-	1 A	-	4 A
DC inductive, L/R =40ms	4 A	8 A	4 A	8 A	3 A	-	0.5A	-	2 A
AC resistive & inductive	10 A	-	10 A	-	10 A	-	10A	-	-

Electrical endurance; : 0,2 Million operations,
Tested according to IEC 255-23 at 110 V dc, 0,5A L/R 40 ms.
Terminals : Suitable for 2x1,5mm^2 wires

Electrical tests

Measurement of resistance; Tested acc. to IEC 255-6 : +/- 10% of specified
Temperature-rise; Tested acc. to IEC 255-6 : Coil (class F)
Insulation resistance; Tested acc. to IEC 255-5 : >100 M Ohm at 500 V dc
Dielectric; Tested acc. to IEC 255-5 : 2,0 kV 50 Hz, 1 min
Impulse; Tested acc. to IEC 255-5 : 5 kV, 1,2/50 s, 0,5J

Environmental tests

Vibration response; Tested acc. to IEC 255-21-1 : 10-150Hz; 0.5g; 3 axis
Vibration endurance; Tested acc. to IEC 255-21-1 : 10-150Hz; 1.0g; 3axis
Dry heat; Tested acc. to IEC 68-2-2 : at +55 Deg C in energized condition
Dry cold; Tested acc. to IEC 68-2-1 : at 0 Deg C
Damp heat (cyclic - 6days); : 12 Hr/55 C + 12 Hr/25 C x 2 @ 93% RH
Tested acc. to IEC 68-2-30
Storage test; Tested acc. To IEC 68-2-48 : +70 Deg C for 72 Hrs and -25 Deg C for 72 Hrs

Ordering details:

Relay type
Auxiliary voltage
Contact configuration

Connection diagram and contact configuration

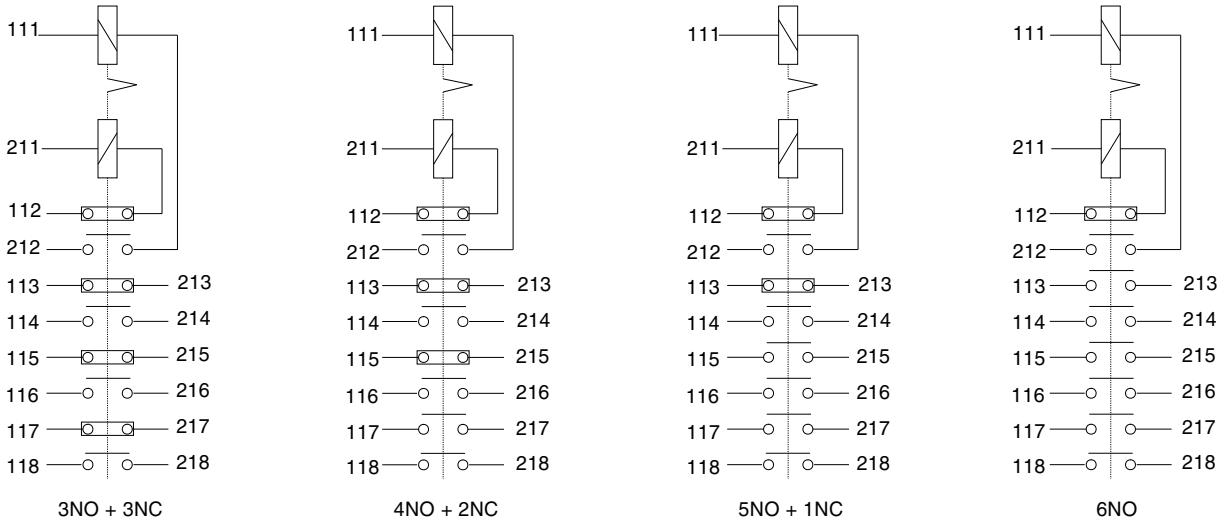
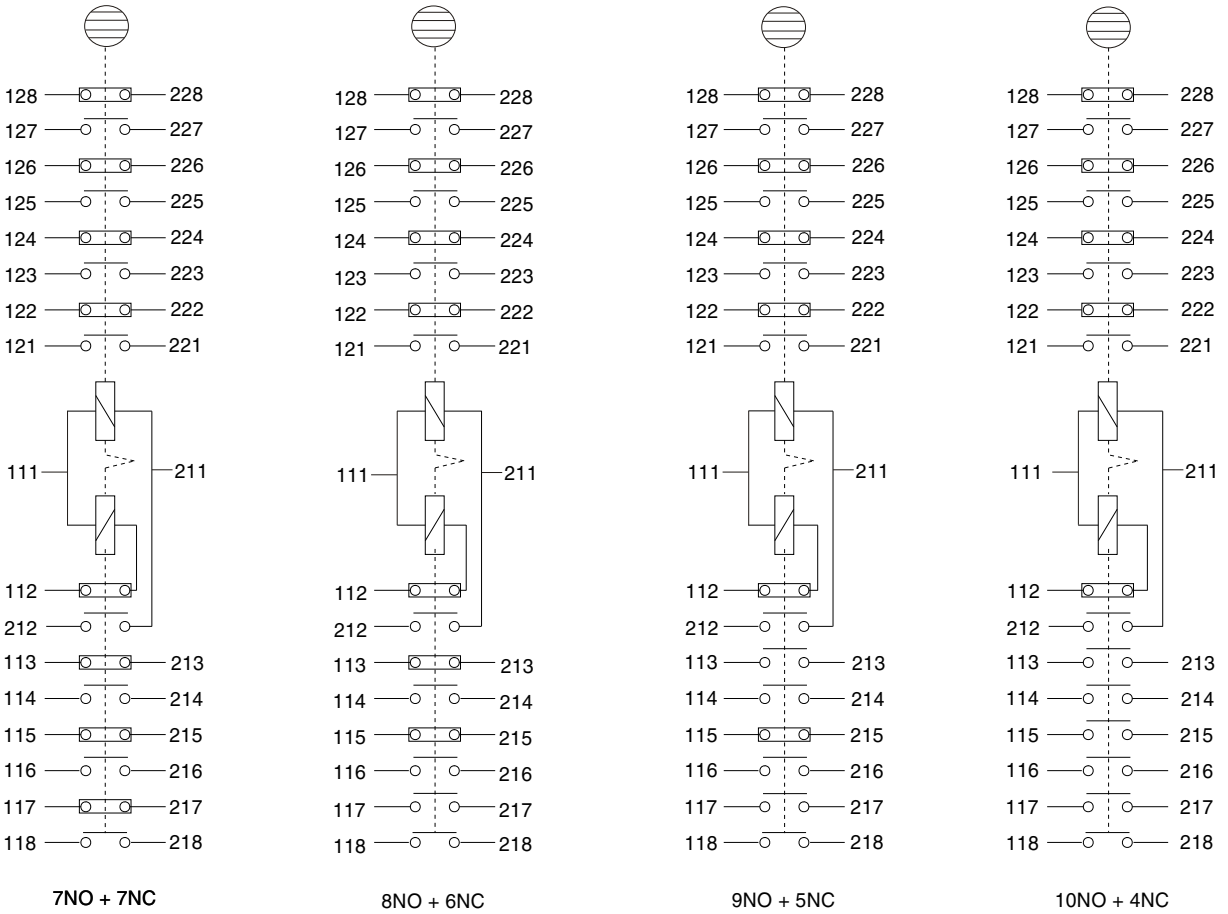


Fig 1 - Relay type RXPSU6n on combiflex mounting.
Contact configuration shown for relay in reset position



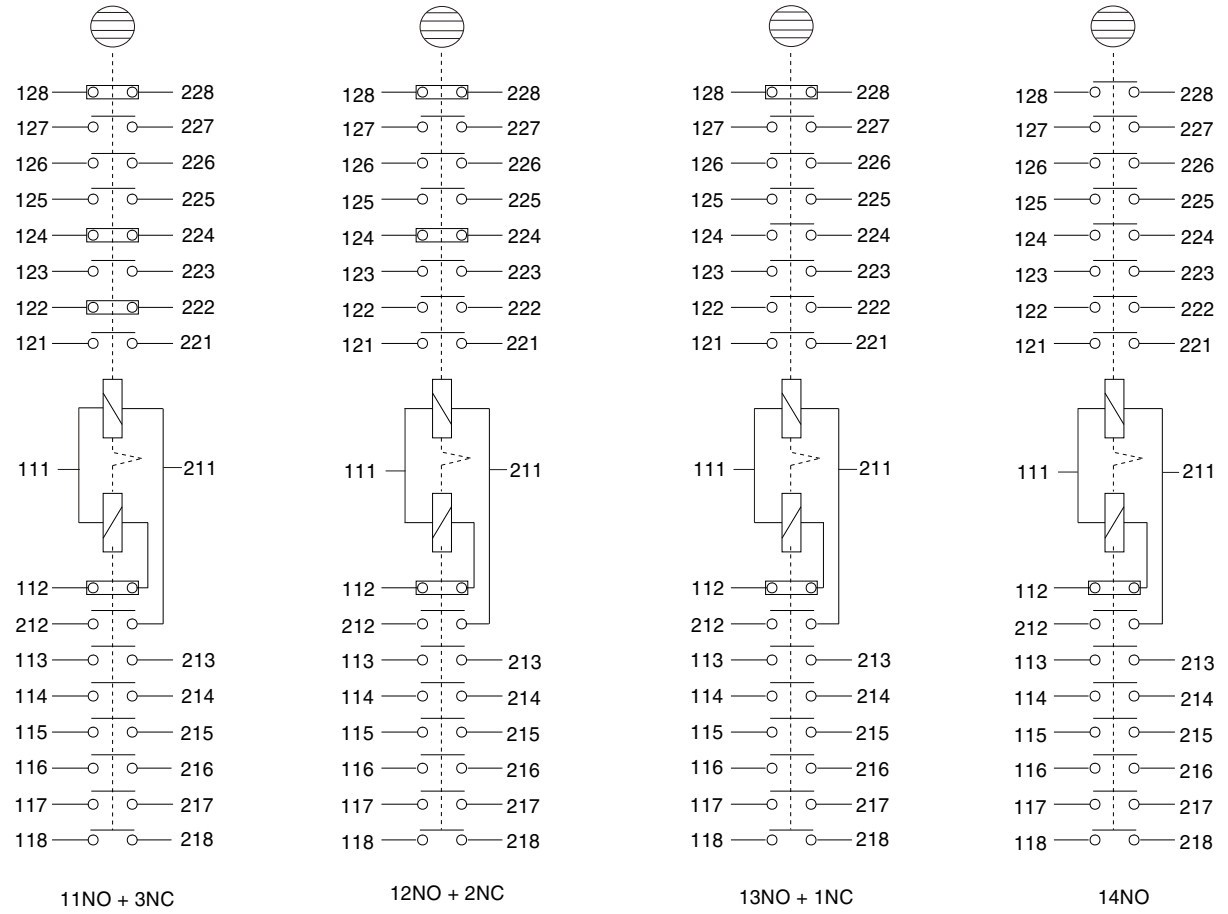


Fig 2 - Relay type RXPSU14n on combiflex mounting.
Contact configuration shown for relay in reset position

Dimensions

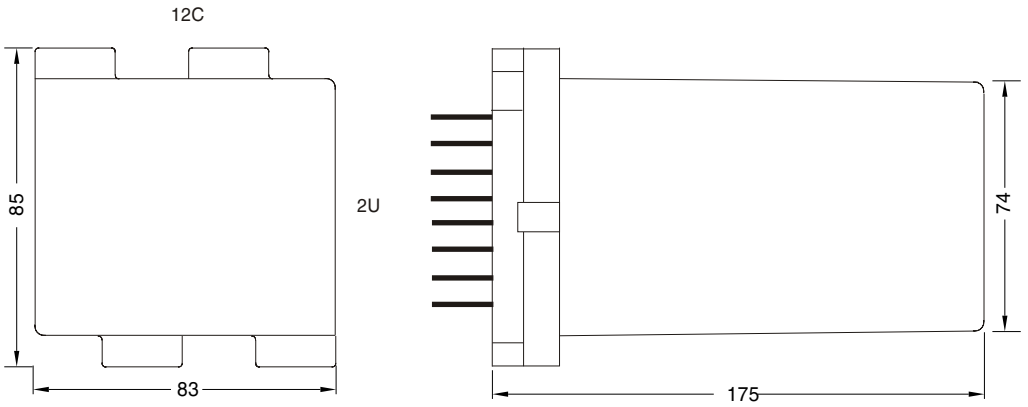


Fig. 3- Combiflex mounting

References	Connection and installation components in COMBIFLEX	1MRK 513 003-BEN
	Relay mounting systems	1MRK 514 001-BEN

Ordering Details

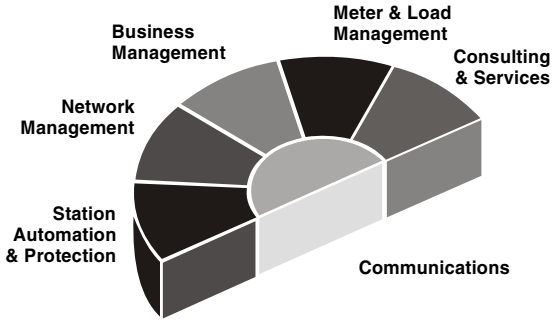
Refer type designation for selection and mark (✔) appropriate boxes

Type : RXPSU6n ☐ Qty..... Item no.....

Aux Voltage	: 24VDC	☐	Contacts	6N/O + 0N/C	☐
	30VDC	☐		5N/O + 1N/C	☐
	48VDC	☐		4N/O + 2N/C	☐
	110VDC	☐		3N/O + 3N/C	☐
	125VDC	☐			
	220VDC	☐			
	250VDC	☐			

Type RXPSU14n ☐ Qty..... Item no.....

Aux Voltage :	24VDC	☐	Contacts	14N/O + 0N/C	☐
	30VDC	☐		13N/O + 1N/C	☐
	48VDC	☐		12N/O + 2N/C	☐
	110VDC	☐		11N/O + 3N/C	☐
	125VDC	☐		10N/O + 4N/C	☐
	220VDC	☐		9N/O + 5N/C	☐
	250VDC	☐		8N/O + 6N/C	☐
				7N/O + 7N/C	☐



Panorama is the standard for a comprehensive range of integrated solutions for efficient and reliable management of power networks. Using innovative information technology, Panorama delivers total control of the power process, from generation to consumption. The Panorama standard covers six application areas, each offering specific solutions.

1MDB08205 -YN 12 - 2002

Asea Brown Boveri Limited
Substation Automation Products
Maneja, Vadodara 390 013, India.
Tel. : 0265-2604386, 2604384, 2604387
Fax : 0265-2638922
E-mail : aicds@in.abb.com