Station
Automation
& Protection

Auxiliary Relay
Type CV2

PHOTO GRAPH TO BE REVISED

ABB Distributiontion Automation Products

ABB

Features

- Small size
- High degree of reliability, even when it has been idle for a long time
- Mechanical operation indicator
- High contact rating
- 2 or 4 contacts with double interruption
- Three mounting variants
- Wide range of voltage and low power consumption

Application

The indicating relay type CV2 is intended for use in control and protective systems in industrial plants and power stations, where it is mainly used in conjunction with electronic control systems, particularly where a visual indication of a given function is required.

Design & Principle

The indicating relay type CV2 is an instantaneous hinged-armature relay with two contacts. These may be either two normally open contacts , or one normally open and one normally closed. (Two normally closed contacts cannot be supplied.)

The magnetic system comprises the fixed core and the hinged-armature which actuates the contacts. When the coil is de-energised, the armature is reset to its original position by a spring.

When the relay picks up, an indicating knob pops out. When the relay is in its normal state, prior to pick-up the knob is black, but when it picks up, there appears an orange ring. The indicator can be reset simply by pressing the knob back in.

Separate relays can be supplied without hood for incorporation in other equipment. For pairs of relays various modes of mounting are possible as shown below.

Type designation of auxiliary relays:

CV2			Basic auxiliary relay
	A		for AC Voltage
	D		for DC Voltage
		H	with single element without protective cover
		RM	with single element mounted on sheet-metal base
		M	with double element mounted on sheet-metal base
		RN	with single element mounted on plug-in base
		N	with double element mounted on plug-in top
		J	with single element mounted in1/2'S' size, flush mounting case
		2J	with double element mounted in 1/2'S' size, flush mounting case

Available types: CV2AJ, CV2DJ CV2DRM, CV2RDN, CV2DH, CV2A2J, CV2D2J CV2DM, CV2DN

Technical data

Rated voltage (U_N)	:	24,30, 48, 110,220, 250 DC 24,30,48,110,240 AC (with Rectifier) available only in '1/2S' size mounting case
Operating range	:	+ 10% to - 20% of U_N
Frequency	:	50 Hz +/-5%
Pick-up voltage (%U_N)	:	< 75%
Drop-off voltage (%U_N)	:	>15%
Pick-up time at U_N (typical)	:	20-35ms
Maximum power consumption	:	dc; 3W ac; 2.5 VA
Insulation tests		
Dielectric test	:	2kV, 50Hz, 1min. as per IEC 60255-5
Impulse voltage test	:	5kV, 1.2/50micro sec. 0.5J., as per IEC 60255-5
Insulation resistance	:	>100 M ohms at 500V dc. as per IEC 60255-5

Mechanical life : 1x 10^6 switching operations. as per IEC60255-6
Switching rate : Up to 1000 Operations per hour at full breaking current, or 3600 times per hour with reduced breaking current.

Contacts
Rated voltage : 250V dc/ac
Rated current : 10 A
Max. making current : 30 A
Max. Breaking capacities

Voltage	24-60 V		110V		125 V		220V	
Contacts	1	2 in Series	1	2 in Series	1	2 in Series	1	2 in Series
DC resistive load	16A	20A	8A	15A	6A	15A	1.1A	6A
DC inductive. L/R =15ms	7.5A	10A	3A	10A	2.5A	8A	0.8A	3.5A
AC 50Hz resistive	20A	-	20A	-	20A	-	20A	-
AC 50Hz inductive (Cos =0.3)	20A	-	20A	-	20A	-	20A	-

Environment tests
Dry heat test : IEC 60068-2-2 +55°C and +70°C
Dry cold test : IEC 60068-2-1 -10°C and -25°C
Damp heat cyclic test : IEC 60068-2-30 12hrs+12hrs cycle at+55°C/+25°C with RH98% for 6days
Storage test : IEC 60068-2-8 +70°C for 72hrs and -25°C for 72 hrs.

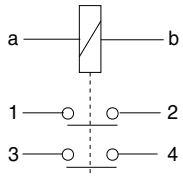
Vibrations test
Vibration response : IEC 60255-21-1 Class-1 10-150Hz; 0.5g; 3 axis
endurance test : IEC 60255-21-1 Class-1 10-150Hz; 1.0g; 3 axis

Electromagnetic compatibility requirements
High frequency disturbance test : IEC 60255-22-1 1MHz 2.5kV common mode, and 1kV differential mode

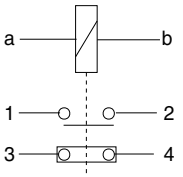
Weight
Type .....N : 0.69 Kg. Approx.
Type ..... M : 0.68 Kg. Approx.
Type .....2J : 0.85 Kg. Approx.

Ordering details
Relay type
Auxiliary Voltage
Contacts configuration

Connection diagram and contact configuration

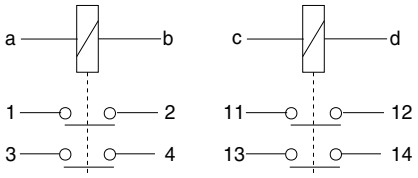


2NO + 0NC

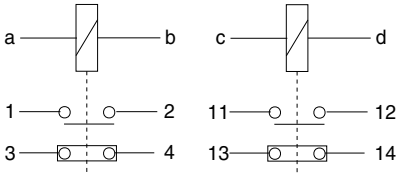


1NO + 1NC

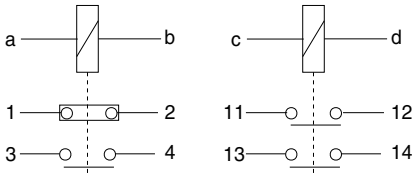
Fig.1- Relay with one element on plug-in base, on sheet-metal base or in 1/2'S' case mounting.



4NO + 0NC

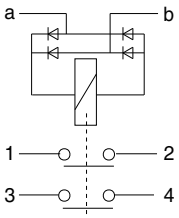


2NO + 2NC

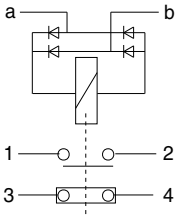


3NO + 1NC

Fig.2- Relay with two elements on plug-in base, on sheet-metal base or in 1/2'S' case mounting.

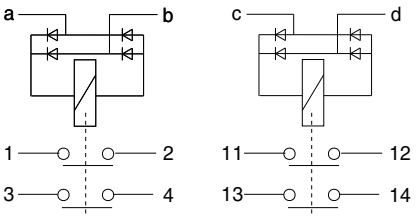


2NO + 0NC

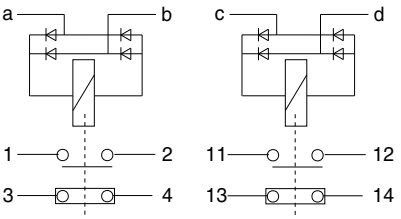


1NO + 1NC

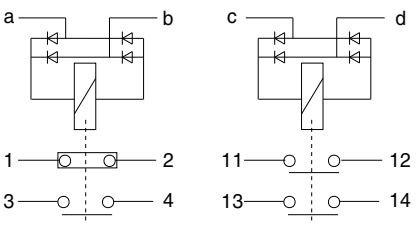
Fig.3- Relay for ac voltage with one element in 1/2'S' case mounting.



4NO + 0NC



2NO + 2NC



3NO + 1NC

Fig.4- Relay for ac voltage with two elements in 1/2'S' case mounting.

Dimensions

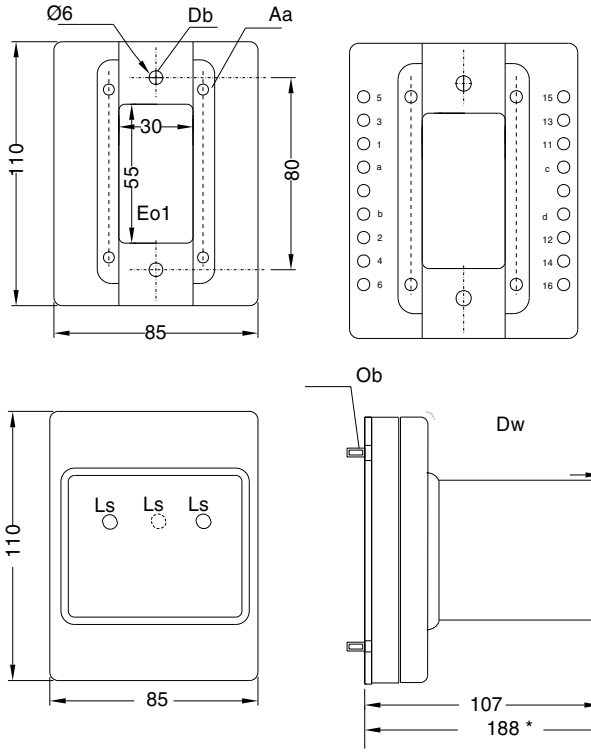


Fig. 5- Plug-in base mounting

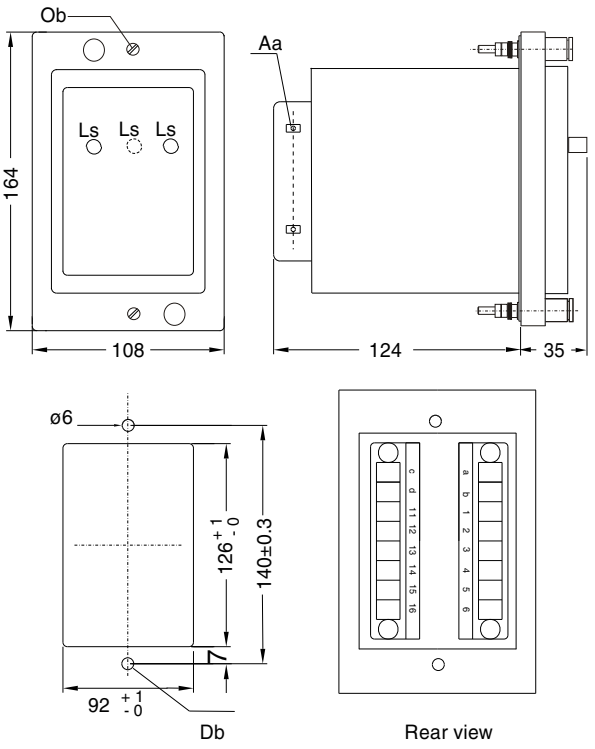


Fig.6- 1/2'S' case mounting.

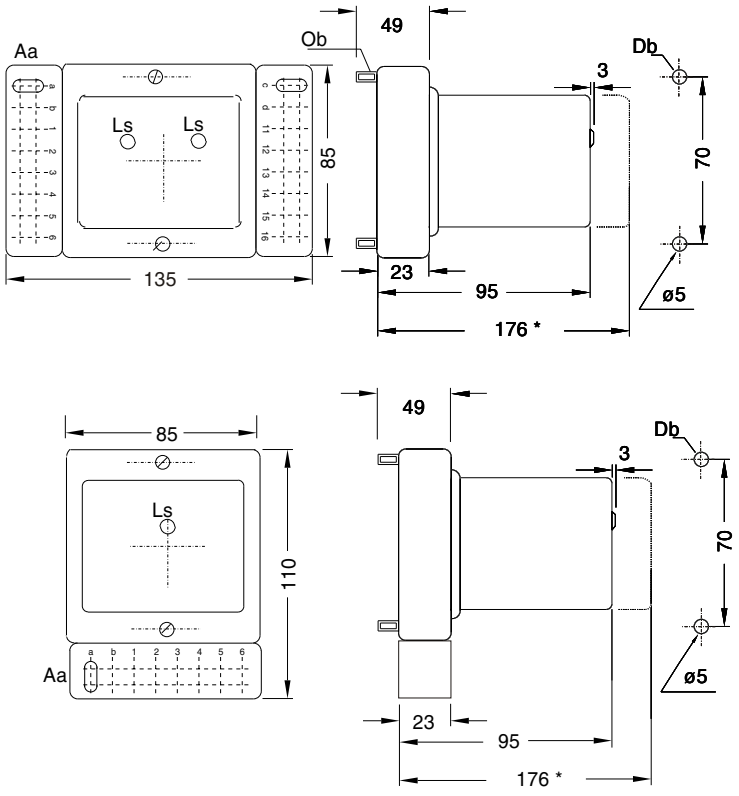


Fig. 7- Sheet-metal base mounting.

Legend

Aa : Terminals
Db : Mounting hole
E01 : Cut-out for rear wiring.
* : Space for removing hood.
Ls : Operation signal
Ob : Fixing screw

Ordering Details

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

Type : CV2DRM ☐ Qty..... Item no.....

CV2DM ☐ Qty..... Item no.....

CV2DH ☐ Qty..... Item no.....

Aux Voltage : 24VDC ☐ Contacts 2N/O + 0N/C ☐

30VDC ☐ 1N/O + 1N/C ☐

48VDC ☐ 4N/O + 0N/C ☐

110VDC ☐ 2N/O + 2N/C ☐

220VDC ☐ 3N/O + 1N/C ☐

250VDC ☐

Type : CV2DRN ☐ Qty..... Item no.....

CV2DN ☐ Qty..... Item no.....

Aux Voltage : 24VDC ☐ Contacts 2N/O + 0N/C ☐

30VDC ☐ 1N/O + 1N/C ☐

48VDC ☐ 4N/O + 0N/C ☐

110VDC ☐ 2N/O + 2N/C ☐

220VDC ☐ 3N/O + 1N/C ☐

☐

Type : CV2DJ ☐ Qty..... Item no.....

CV2AJ ☐ Qty..... Item no.....

CV2D2J ☐ Qty..... Item no.....

CV2A2J ☐ Qty..... Item no.....

Aux Voltage : 24VDC ☐ Contacts 2N/O + 0N/C ☐

30VDC ☐ 1N/O + 1N/C ☐

48VDC ☐ 4N/O + 0N/C ☐

110VDC ☐ 2N/O + 2N/C ☐

220VDC ☐ 3N/O + 1N/C ☐

250VDC ☐

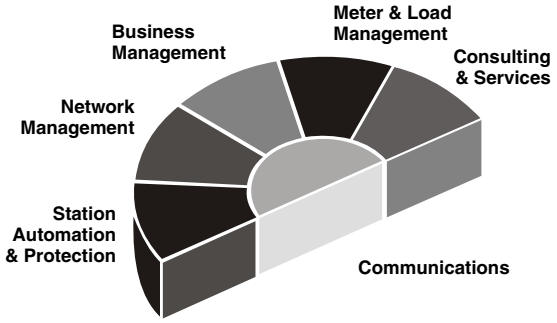
24VAC ☐

30VAC ☐

48VAC ☐

110VAC ☐

240VAC ☐



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.

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