

Data Sheet

Accessories
812.D.001.04

Rotary Cam Switches for AC Voltage and AC Current

V 0
V 3
V 13
V 30
V 32
AU 11
AU 21
AU 31
AU 41



Application

Voltmeter changeover switches allow to measure several voltages by one voltmeter. They are mostly used in 3-phase systems for voltage measurement.

Type V 0 for phase voltages to neutral in 3-phase 4-wire systems, switching positions: 0 – L1N – L2N – L3N

Type V 3 for delta voltages in 3-phase 3-wire systems, switching positions: 0 – L1L2 – L2L3 – L3L1

Type V 13 for delta voltages and 1 phase voltage to neutral in 3-phase 4-wire systems, switching positions: L3L1 – L2L3 – L1L2 – 0 – L1N

Type V 30 for delta voltages and phase voltages to neutral in 3-phase 4-wire systems, switching positions: L3L1 – L2L3 – L1L2 – 0 – L1N – L2N – L3N

Type V 32 for delta voltages in two 3-phase 3-wire systems, switching positions: L3L1 – L2L3 – L1L2 – 0 – L1L2 – L2L3 – L3L1

Ammeter changeover switches are used for current measurements in several current circuits by one ammeter over current transformers.

Type AU 11 single-pole with off-position, 1 current transformer circuit, switching positions: 0 – 1

Type AU 21 single-pole with off-position, 2 current transformer circuits, switching positions: 1 – 0 – 2

Type AU 31 single-pole with off-position, 3 current transformer circuits, switching positions: 0 – 1 – 2 – 3

Type AU 41 single-pole without off-position, 4 current transformer circuits, switching positions: 1 – 2 – 3 – 4

The changeover switches can be mounted next to each other. The terminals have undetachable screws and wire clamps.

The switching contacts are fitted into self-contained control sections which prevent ingress of foreign bodies.

Mechanical Data

construction	suitable for panel mounting				
material of case (control sections)	self-extinguishing thermoplastics, glass-fibre reinforced				
contact material	hard silver				
front plate	thermoplastics, black, square form				
handle	wing handle, gray				
panel thickness	1 ... 5 mm				
mounting	next to each other possible				
position of use	any position permissible				
panel fixing	4 countersunk head screws M4				
terminals	screws M3.5x6				
cross-section of connection	4 mm ²				
Type	V 0	V 3	V 13	V 30	V 32
number of control sections	2	2	3	3	4
depth in mm	46	46	58	58	70
weight approx. in kgs	0.09	0.09	0.12	0.12	0.14
Type	AU 11	AU 21	AU 31	AU 41	
number of control sections	1	2	3	4	
depth in mm	34	46	58	70	
weight approx. in kgs	0.07	0.09	0.12	0.14	

also refer to "Options"

Electrical Data

operating voltage	AC 690 V
continuous current	25 A according to VDE
load switching capacity	25 A according to VDE
frequency	up to 3 kHz
product classification	C3 according to VDE
enclosure code	IP 40 on front side IP 00 on rear side
insulation class	group C according to VDE/IEC

Environmental

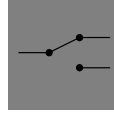
ambient temperature range	encased –20 ... +40 °C open –20 ... +50 °C
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Rules and Standards

DIN EN 60529	Enclosure Codes (IP Codes)
DIN EN 60947-1; VDE 0660-100	Low Voltage Switching Devices Part 1: General requirements
DIN EN 60947-3; VDE 0660-107	Low Voltage Switching Devices Part 3: Load Switches, Separating Switches, Load Separating Switches and Switch Fuse Units
DIN EN 61 010-1	Safety requirements for electrical measuring, control and laboratory equipment Part 1: General requirements

Options

type	double-pole ammeter changeover switches on request
construction	different forms and mounting varieties on request
front plate	different colours or forms on request
handle	different forms or colours on request
continuous current	>25 A on request
supplementary devices	front plates, interlocking, etc. on request

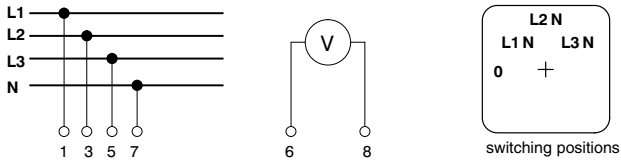


Rotary Cam Switches for AC Voltage and AC Current

Connections

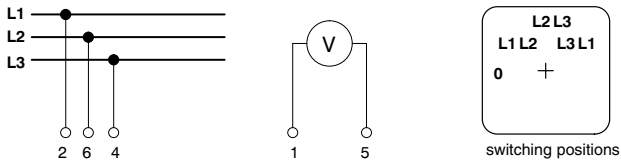
type V 0

for 3 phase voltages to neutral, connection diagram No. 1085



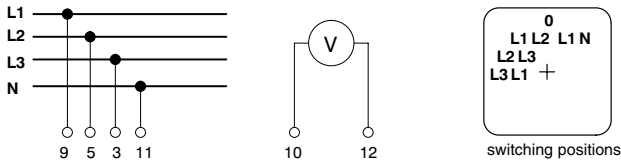
type V 3

for delta voltages, connection diagram No. 1086



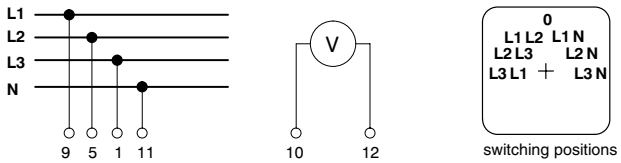
type V 13

for 1 phase voltage to neutral and delta voltages, connection diagram No. 1087



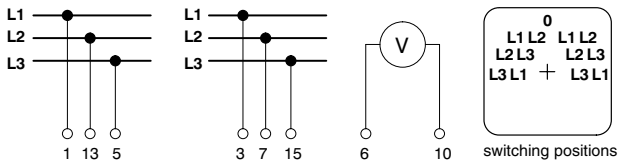
type V 30

for delta voltages and 3 phase voltages to neutral, connection diagram No. 1088



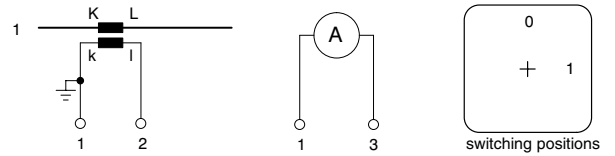
type V 32

for delta voltages in two 3-phase 3-wire systems, connection diagram No. 1089



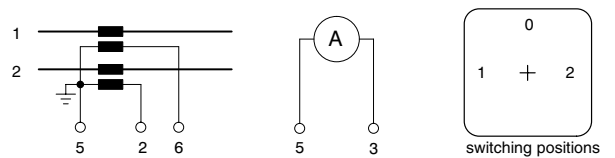
type AU 11

for 1 current transformer circuit, single-pole, connection diagram No. 1090



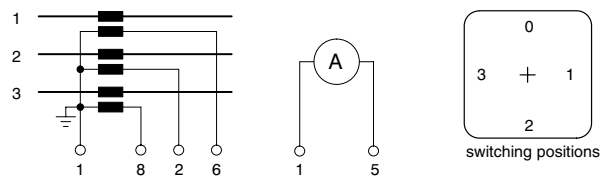
type AU 21

for 2 current transformer circuits, single-pole, connection diagram No. 1091



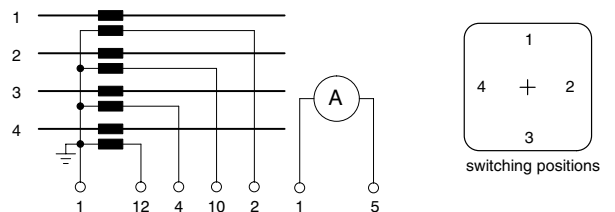
type AU 31

for 3 current transformer circuits, single-pole, connection diagram No. 1092

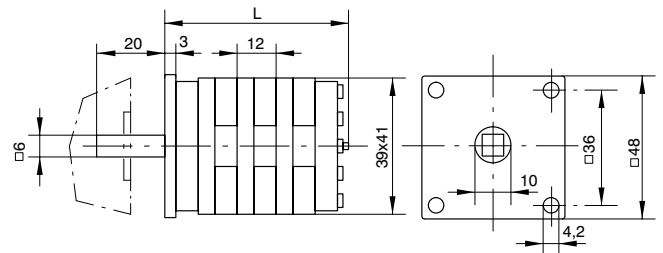


type AU 41

for 4 current transformer circuits, single-pole, connection diagram No. 1093



Dimensions



(scaled in mm)

type	V 0	V 3	V 13	V 30	V 32
number of control sections	2	2	3	3	4
depth L in mm	46	46	58	58	70
type	AU 11	AU 21	AU 31	AU 41	
number of control sections	1	2	3	4	
depth L in mm	34	46	58	70	

Ordering Information

type	Instrument Changeover Switches
V 0	for phase voltages to neutral in 3-phase 4-wire systems
V 3	for delta voltages in 3-phase 3-wire systems
V 13	for delta voltages and 1 phase voltage to neutral in 3-phase 4-wire systems
V 30	for delta voltages and phase voltages to neutral in 3-phase 4-wire systems
V 32	for delta voltages in two 3-phase 3-wire systems
AU 11	for 1 current transformer circuit, single-pole with off-position
AU 21	for 2 current transformer circuits, single-pole with off-position
AU 31	for 3 current transformer circuits, single-pole with off-position
AU 41	for 4 current transformer circuits, single-pole without off-position
others	double-pole ammeter changeover switches **)
construction	panel mounting *) different forms or mounting varieties **)
front plate	thermoplastics, black, square form *) different colours or rectangular **)
handle	wing handle, gray *) different forms or colours **)
continuous current	25 A *) >25 A **)
supplementary devices	none *) front plate, interlocking, etc. **)

*) standard

**) on request

ordering example

voltmeter changeover switch type V 3
for delta voltages in 3-phase 3-wire system

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– specifications subject to change without notice; date of issue 03/11 –

