

Technical data

Horizontal fuse-switch disconnecter type KVL size 00, 1, 2, 3 (baseplate mounting)

Technical data (in accordance with IEC/EN 60947-3)

Size			00					1				
Technical Characteristics												
Rated operational voltage	U _e	V	400 AC	500 AC	690 AC	250 DC	440 DC	400 AC	500 AC	690 AC	250 DC	440 DC
Rated operational current*	I _e	A	160	160	160	160	160	250	250	250	250	250
Conv. free air thermal current with fuse-links*	I _{th}	A	160					250				
Conv. free air thermal current with solid-links*	I _{th}	A	210					325				
Rated frequency	f	Hz	40-60	40-60	40-60	/	/	40-60	40-60	40-60	/	/
Rated insulation voltage	U _i	V	1000 AC					1000 AC				
Total power loss (without fuse)	P _v	W	1P - 3W, 3P - 9W					1P - 5W, 3P - 15W				
Power loss at 80% I _{th} (without fuse-links), **	P _v	W	1P - 1,9 W, 3P - 5,8 W					1P - 3,2 W, 3P - 9,6 W				
Rated impulse withstand voltage	U _{imp}	kV	8					8				
Utilisation category***			AC-23B	AC-22B	AC-21B	DC-22B	DC-21B	AC-23B	AC-22B	AC-21B	DC-22B	DC-21B
Rated conditional short-circuit current, ***, ****		kA	120 (500V), 100 (690V)					120 (500V), 100 (690V)				
Rated short-time withstand current	I _{cw}	kA	5/1s					8,6/1s				
Fuse links												
Size - DIN VDE 0636-2	-	-	000/00					1				
Max. rated current (gG)	I _n	A	160	160	160	160	160	250	250	250	250	250
Max. permissible power loss per fuse link	P _a	W	12					23				
Cable terminal												
Flat terminal-Screw			M8					M10				
Tightening torque	Ma	Nm	12-15					30-35				
Clip terminal, Clamping cross-section		mm ²	Round conductor: 1,5-70 Cu , Laminated copper bar: 6 x 9 x 0,8 Cu					Round conductor: 2,5-150 Cu , Laminated copper bar: 6 x 16 x 0,8 Cu				
Tightening torque	Ma	Nm	2,6					9,5				
Prism Clamp, Clamping cross-section		mm ²	(SP KVL00 P1); 10-70 Al/Cu , 35-95 Al/Cu					(SP KVL1 P1); 10-150 Al/Cu				
Tightening torque	Ma	Nm	(SP KVL00 P1); 2,6					(SP KVL1 P1); 4,5				
Prism Clamp, Clamping cross-section		mm ²						(SP KVL1 P2); 2 x (10-150) Al/Cu				
Tightening torque	Ma	Nm						(SP KVL1 P2); 4,5				
Frame clamp, Clamping cross-section		mm ²	1,5-95 Al/Cu , (Al 95: max. 125A), *****					35-150 Al/Cu				
Torque	Ma	Nm	4,5					12				
Degree of Protection, front side device												
Front cover close	-	-	IP20					IP20				
Front cover open	-	-	IP10					IP10				
With clamp- and lateral cover	-	-	IP2XC					IP2XC				
Operating condition												
Ambient temperature *****	T _{amb}	°C	-25 ... +55					-25 ... +55				
Operating condition	-	-						Continuous operation				
Mounting	-	-						vertical, horizontal				
Altitude	-	m						≤ 2000				
Pollution degree	-	-						3				
Overvoltage category	-	-	III					III				

* Mounting of several units in low voltage switchgear-combinations, please think about rated diversity factors acc. to DIN EN 61439.

** Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.

*** minimum distance to earthed, conductive parts: Lateral: 20mm/Above: 50mm

*** a) Lateral: 50mm/Above: 100mm

**** Type tested with NH fuse-links characteristic gG

***** 35°C Normal temperature, at 55°C with reduced operating current

Technical data (in accordance with IEC/EN 60947-3)

Size			2					3				
Technical Characteristics												
Rated operational voltage	U _e	V	400 AC	500 AC	690 AC	250 DC	440 DC	400 AC	500 AC	690 AC	250 DC	440 DC
Rated operational current*	I _e	A	400	400	400	400	400	630	630	630	630	630
Conv. free air thermal current with fuse-links*	I _{th}	A	400					630				
Conv. free air thermal current with solid-links*	I _{th}	A	520					910				
Rated frequency	f	Hz	40-60	40-60	40-60	/	/	40-60	40-60	40-60	/	/
Rated insulation voltage	U _i	V	1000 AC					1000 AC				
Total power loss (without fuse)	P _v	W	1P - 9W, 3P - 28W					1P - 17W, 3P - 51W				
Power loss at 80% I _{th} (without fuse-links), **	P _v	W	1P - 6 W, 3P - 17,9 W					1P - 10,9 W, 3P - 32,6 W				
Rated impulse withstand voltage	U _{imp}	kV	8					8				
Utilisation category***			AC-23B	AC-22B	AC-21B	DC-22B	DC-21B	AC-23B	AC-22B	AC-21B	DC-22B	DC-21B
Rated conditional short-circuit current, ***, ****		kA	120 (500V), 100 (690V)					120 (500V), 100 (690V)				
Rated short-time withstand current	I _{cw}	kA	15/1s					15/1s				
Fuse links												
Size - DIN VDE 0636-2	-	-	2					3				
Max. rated current (gG)	I _n	A	400	400	400	400	400	630	630	630	630	630
Max. permissible power loss per fuse link	P _a	W	34					48				
Cable terminal												
Flat terminal-Screw			M10					M10 / M12				
Tightening torque	Ma	Nm	30-35					30-35				
Clip terminal, Clamping cross-section		mm ²	Round conductor: 25-150 Cu, Laminated copper bar: 10 x 16 x 0,8 Cu					Laminated copper bar: 11 x 21 x 1 Cu				
Tightening torque	Ma	Nm	23					23				
Prism Clamp, Clamping cross-section		mm ²	(SP KVL2 P1); 120-240 Al/Cu					(SP KVL3 P1); 120-300 Al/Cu				
Tightening torque	Ma	Nm	(SP KVL2 P1); 11					(SP KVL3 P1); 11				
Prism Clamp, Clamping cross-section		mm ²	(SP KVL2 P2); 2 x (120-150) Al/Cu					(SP KVL3 P2); 2 x (120-240) Al/Cu				
Tightening torque	Ma	Nm	(SP KVL2 P2); 11					(SP KVL3 P2); 11				
Frame clamp, Clamping cross-section		mm ²	95 -300 Al/Cu					95-300 Al/Cu				
Torque	Ma	Nm	20					20				
Degree of Protection, front side device												
Front cover close	-	-	IP20					IP20				
Front cover open	-	-	IP10					IP10				
With clamp- and lateral cover	-	-	IP2XC					IP2XC				
Operating condition												
Ambient temperature *****	T _{amb}	°C	-25 ... +55					-25 ... +55				
Operating condition	-	-						Continuous operation				
Mounting	-	-						vertical, horizontal				
Altitude	-	m						≤ 2000				
Pollution degree	-	-						3				
Overvoltage category	-	-	III					III				

* Mounting of several units in low voltage switchgear-combinations, please think about rated diversity factors acc. to DIN EN 61439.

** Reference value for replacement of devices acc. to DIN EN 61439-1 clause 10.10.4.2.

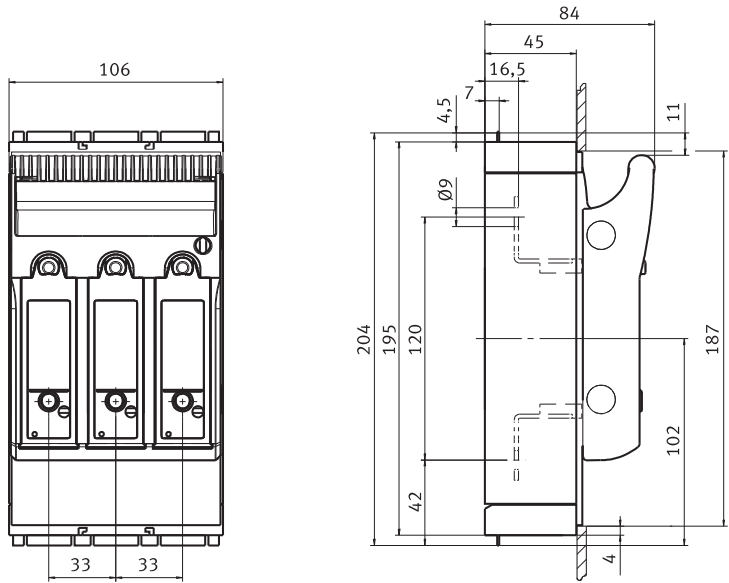
*** minimum distance to earthed, conductive parts: Lateral: 20mm/Above: 50mm

*** a) Lateral: 50mm/Above: 100mm

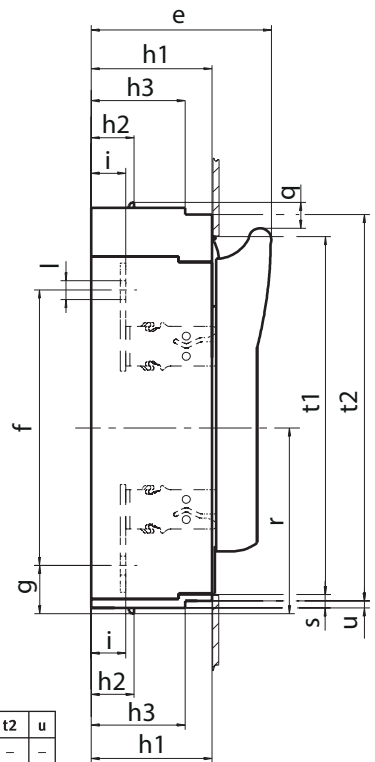
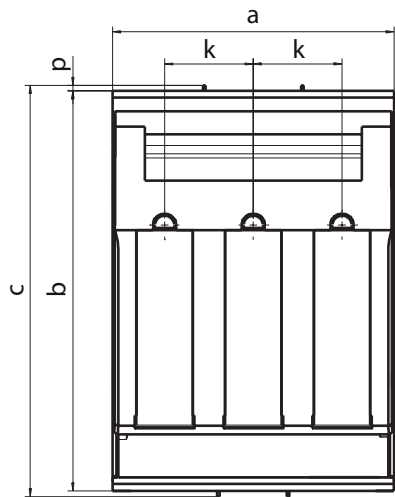
**** Type tested with NH fuse-links characteristic gG

***** 35°C Normal temperature, at 55°C with reduced operating current

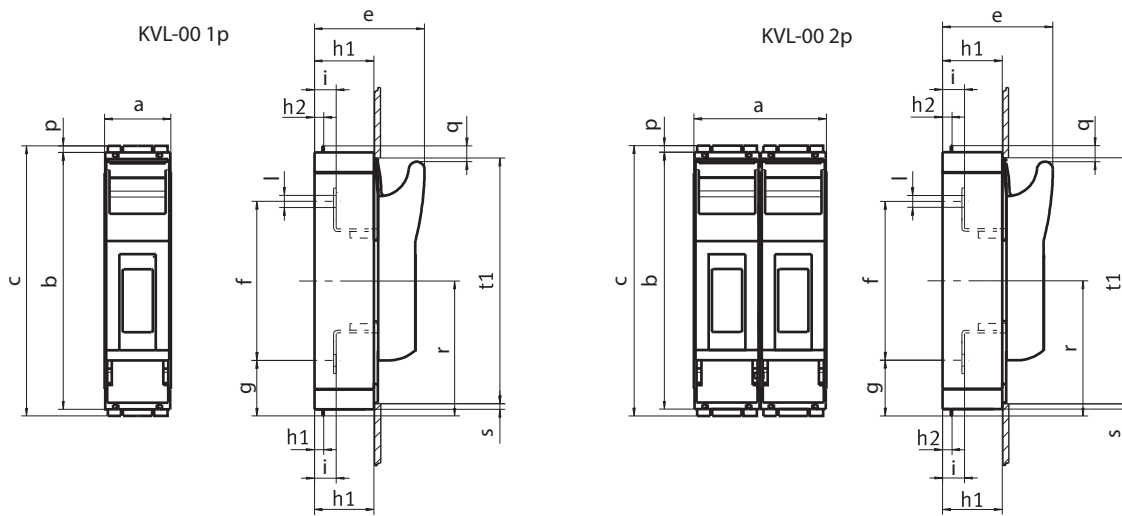
Technical data



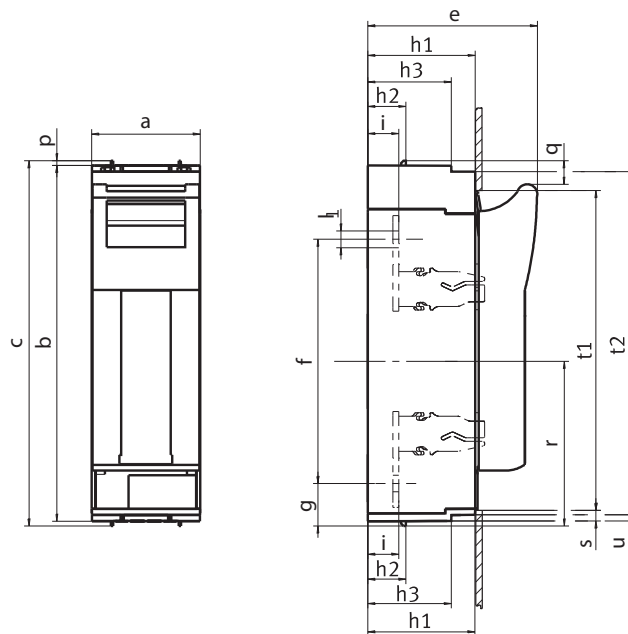
KVL-00 3p M8-M8
KVL-00 3p BC95-BC95
KVL-00 3p M8-M8 LED
KVL-00 3p BC95-BC95 LED



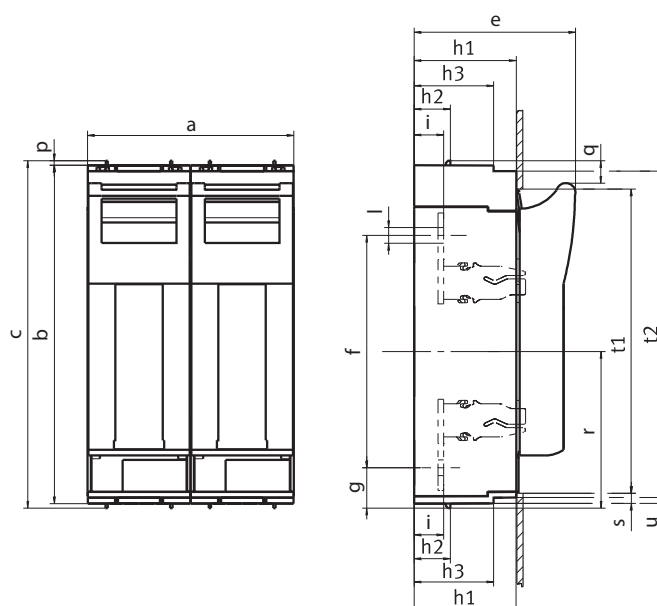
	a	b	c	e	f	g	h1	h2	h3	i	k	l	p	q	r	s	t1	t2	u
KVL-1 3p M10-M10 (LED)	184	298	306	117	185	46	70	32	-	25	58	Ø10,5	4	19	138	5	272	-	-
KVL-2 3p M10-M10 (LED)	210	298	306	134	205	36	90	32	70	26	66	Ø14	4	19	138	10	268	288	5
KVL-3 3p M10-M10 (LED)	250	298	306	143	205	36	90	32	70	26	82	Ø14	4	19	138	10	268	288	5



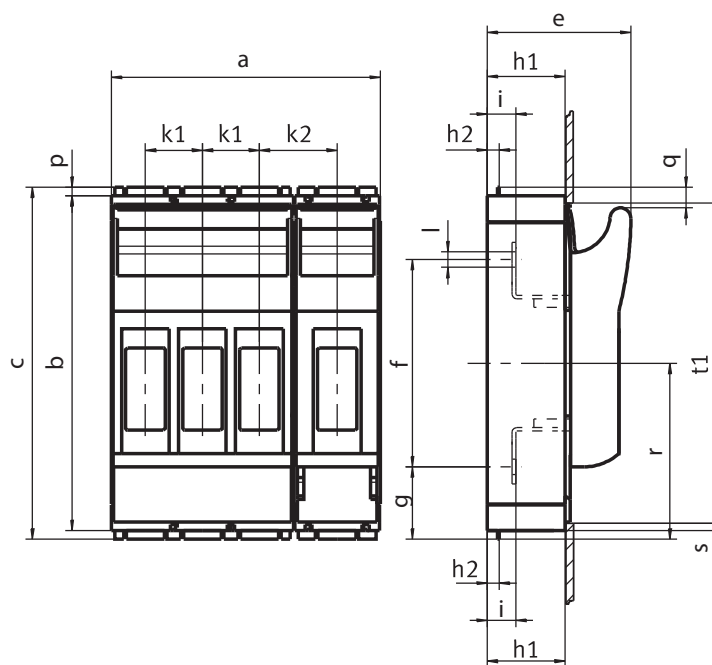
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KVL-00 1p M8-M8	50	195	204	84	120	42	45	7	-	16,5	Ø9	4,5	12	102	5	187
KVL-00 2p M8-M8	100	195	204	84	120	42	45	7	-	16,5	Ø9	4,5	12	102	5	187



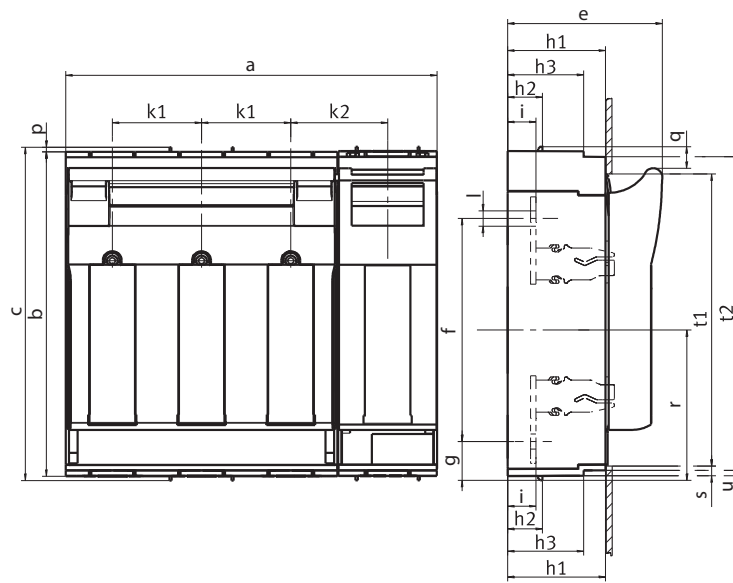
	a	b	c	e	f	g	h1	h2	h3	i	l	p	q	r	s	t1	t2	u
KVL-1 1p M10-M10	69	298	306	117	185	46	70	32	-	25	Ø10,5	4	19	138	5	272	-	-
KVL-3 1p M10-M10	91	298	306	143	205	36	90	32	70	26	Ø14	4	19	138	10	268	288	5



	a	b	c	e	f	g	h1	h2	h3	i	l	p	q	r	s	t1	t2	u
KVL-1 2p M10-M10	138	298	306	117	185	46	70	32	—	25	Ø10,5	4	19	138	5	272	—	—
KVL-3 2p M10-M10	182	298	306	143	205	36	90	32	70	26	Ø14	4	19	138	10	268	288	5



	a	b	c	e	f	g	h1	h2	h3	k1	k2	i	l	p	q	r	s	t1	t2	u
KVL-00 4p M8-M8	156	195	204	84	120	42	45	7	—	33	45	16,5	Ø9	4,5	12	102	5	187	—	—



	a	b	c	e	f	g	h1	h2	h3	k1	k2	i	l	p	q	r	s	t1	t2	u
KVL-1 4p	254	298	306	117	185	46	70	32	—	58	69	25	Ø10,5	4	19	138	5	272	—	—
KVL-3 4p	341,5	298	306	143	205	36	90	32	70	82	89	26	Ø14	4	19	138	10	268	288	5

Technical data - Feeding clamps

Technical Characteristics

Max. electrical load AC690V/DC1000V-250A

Heat deflection temp. 125°C UL94: V0

Comparative tracking index 600

Cross sections

Conductor - Max. Diameter Ø14 mm

single wire mm² 25 - 95

multi wire mm² 25 - 95

fine wire (with end sleeve) mm² 25 - 70

Torque Ma Nm 13

Degree of protection IP20

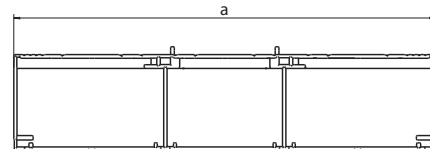
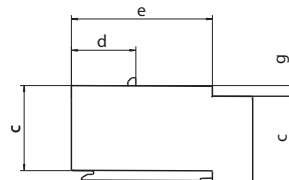
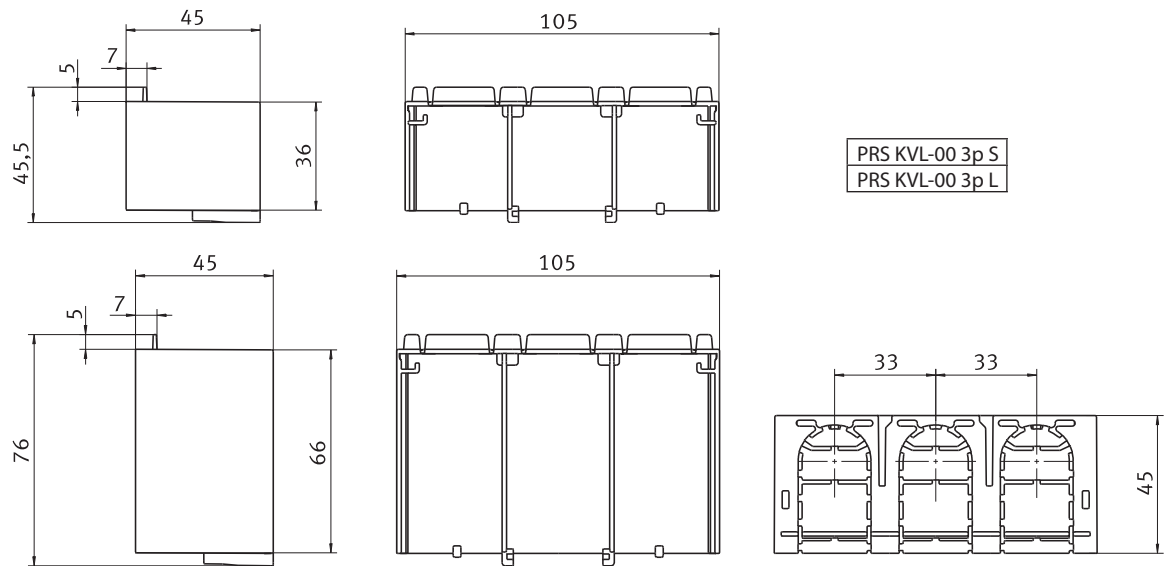
Regulations EN 60998-1:2004; EN 60998-2:2004;
EN 60999-1:2000; EN 60999-2:2003



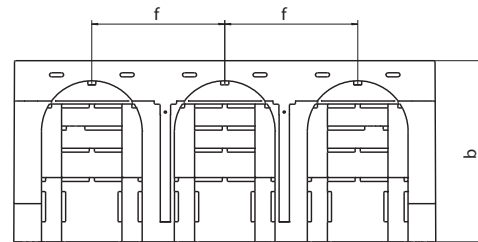
Important

This Terminal is suitable for Al and Cu conductors. Please pay attention to the common handling guidelines when connecting the Aluminium conductors. Clean and brush the contact surfaces and lubricate them with an appropriate grease.

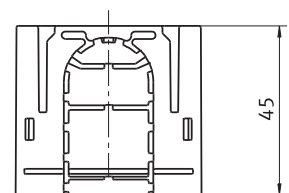
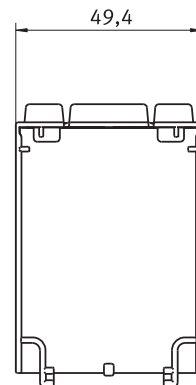
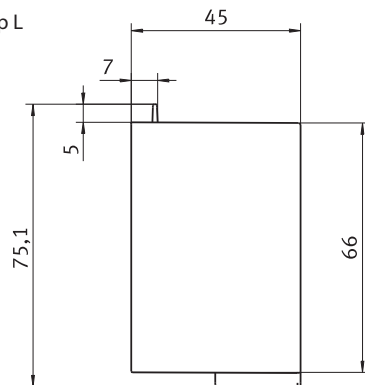
Technical data



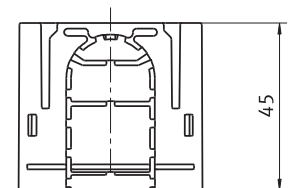
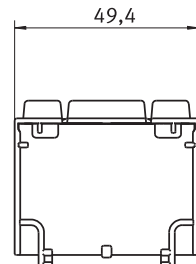
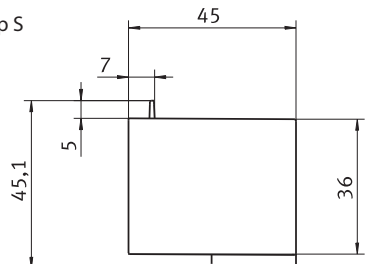
	a	b	c	d	e	f	g
PRS KVL-1 3p	184	70	42	32	—	58	—
PRS KVL-2 3p	210	90	42	32	70	66	5
PRS KVL-3 3p	250	90	42	32	70	82	5



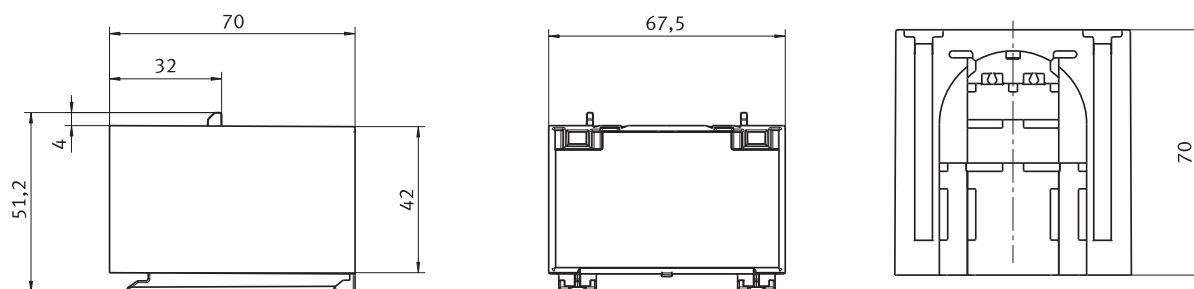
PRS KVL-00 1p L



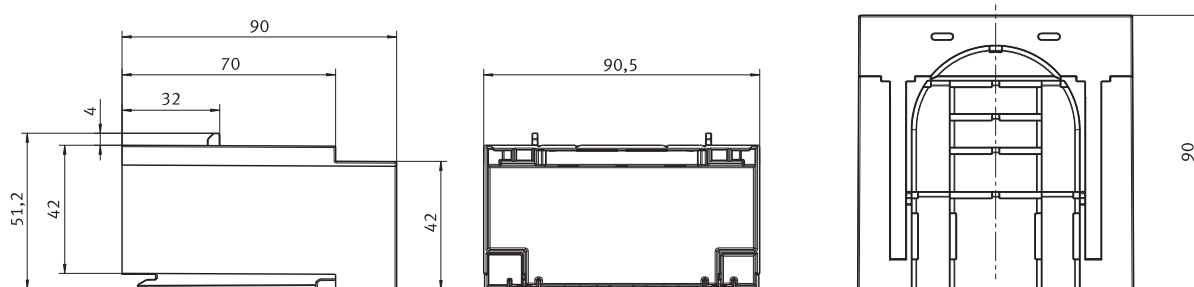
PRS KVL-00 1p S



PRS KVL-1 1p



PRS KVL-3 1p



Technical data - Electronic fuse monitoring unit EFMU KVL

Technical Characteristics

Rated operational voltage	U_e	V	AC400-500 (+/-10%)
Power supply			Self-powered
Input power		VA	1,5
Overvoltage category			230/400 V : III , (4kV) 500 V : II , (4kV)
Rated frequency	f	Hz	50-60
Input resistance			>1k Ohm/V

Output channels

Relay output			1NC/1NO
Maximum voltage		V	AC250/DC24
Maximum switching current		A	1

General data

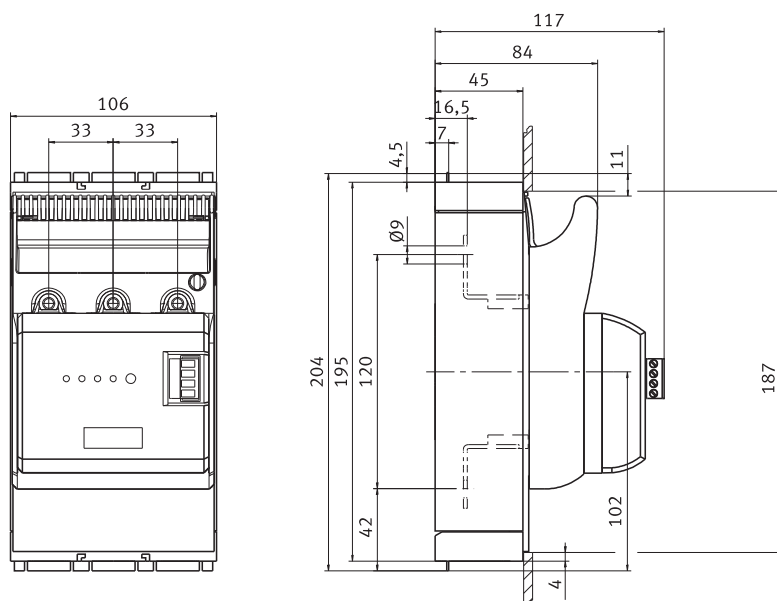
Operation indicator			1 LED green
Alarm indicator			3 LED (F1, F2, F3) red
Functional test			Test key for relay + LEDs
EMC			IEC 61000-4-5/IEC 61000-4-4
Degree of protection			IP 3X

Operating conditions

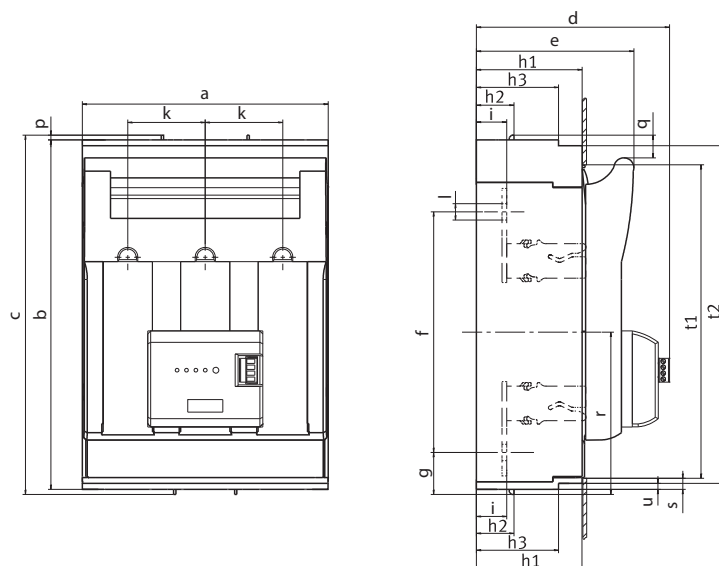
Ambient temperature	T_{amb}	°C	-5 ... +55
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No single detection of parallel connected fuses!

Technical data



KVL-00 3p M8-M8 + EFMU KVL-00 3p
KVL-00 3p BC95-BC95 + EFMU KVL-00 3p



	a	b	c	d	e	f	g	h1	h2	h3	i	k	l	p	q	r	s	t1	t2	u
KVL-1 3p M10-M10 + EFMU KVL-1 3p	184	298	306	148	117	185	46	70	32	-	25	58	Ø10,5	4	19	138	5	272	-	-
KVL-2 3p M10-M10 + EFMU KVL-2 3p	210	298	306	165	134	205	36	90	32	70	26	66	Ø14	4	19	138	10	268	288	5
KVL-3 3p M10-M10 + EFMU KVL-3 3p	250	298	306	173	143	205	36	90	32	70	26	82	Ø14	4	19	138	10	268	288	5

Technical data - Electromechanical fuse monitoring unit MPFMU KVL

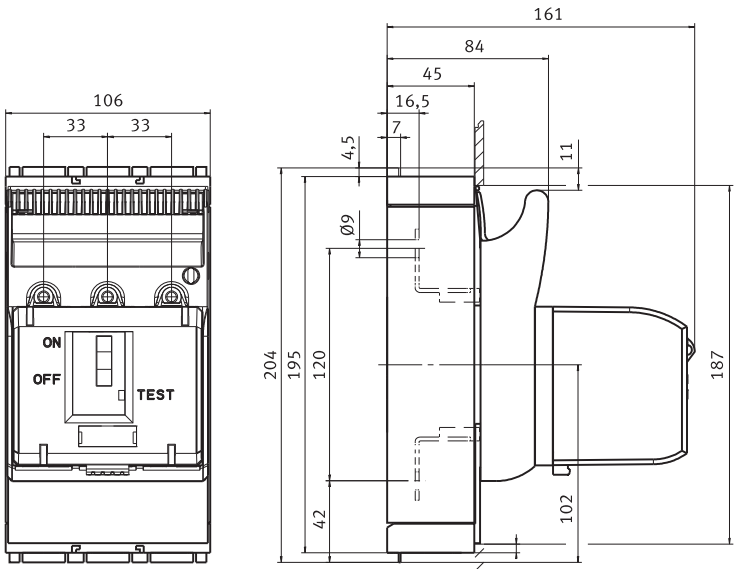
Technical Characteristics

Rated operational voltage	U_e	V	AC24...690 DC24...250
Rated short-circuit breaking capacity	I_{cn}	kA	100
Overvoltage category			230/400V : III (4kV) 500V : II (4kV)
Output channels			
Relay output			1NC/1NO
Maximum voltage		V	AC230/DC24
Maximum switching current			2,5A...AC-12 / 1A...DC-13

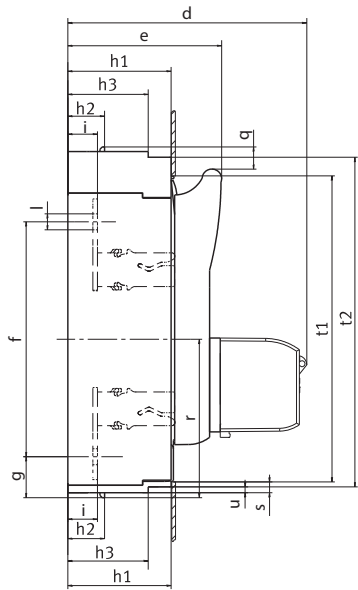
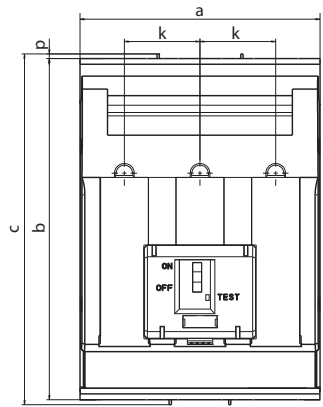
No single detection of parallel connected fuses!

Safety notes

May not be used for safety monitoring in feeders with power control units where, in the event of a fault, it is possible for a DC feedback of >300V (or >600V where 3 current paths are connected in parallel) to occur. If equipment has to be disconnected on the load side of the fuses to be monitored, make sure that no parasitic voltages can arise in the circuit-breaker that is connected in parallel with the fuse-monitoring device.



KVL-00 3p M8-M8 + MPFMU KVL-00 3p
KVL-00 3p BC95-BC95 + MPFMU KVL-00 3p



	a	b	c	d	e	f	g	h1	h2	h3	i	k	l	p	q	r	s	t1	t2	u
KVL-1 3p M10-M10 + MPFMU KVL-1 3p	184	298	306	192	117	185	46	70	32	-	25	58	Ø10,5	4	19	138	5	272	-	-
KVL-2 3p M10-M10 + MPFMU KVL-2 3p	210	298	306	209	134	205	36	90	32	70	26	66	Ø14	4	19	138	10	268	288	5
KVL-3 3p M10-M10 + MPFMU KVL-3 3p	250	298	306	217	143	205	36	90	32	70	26	82	Ø14	4	19	138	10	268	288	5

