

URTK/S Order No.: 0311087

<http://eshop.phoenixcontact.net/phoenix/treeViewClick.do?UID=0311087>



Address

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg, Germany
Phone +49 5235 3 00
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>



© 2013 Phoenix Contact
Technical modifications reserved;

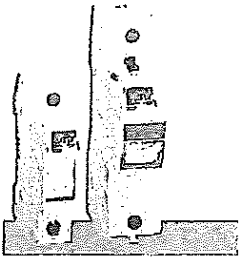
PHOENIX CONTACT GmbH & Co. KG
<http://www.phoenixcontact.com>

Page 11 / 11
Feb 6, 2013

062



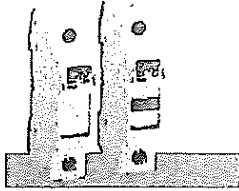
[Handwritten scribble]



Page 12-2

AC FUSE HOLDERS

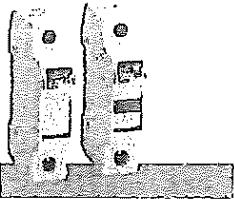
- Version without indicator: 1P, 1P+N, 2P, 3P, 3P+N
- Version with indicator: 1P
- For fuses 10x38, 14x51 and 22x58mm IEC class gG or aM.
- Rated current: 32A, 50A, 125A
- Rated voltage: 690VAC.



Page 12-2

AC FUSE HOLDERS CLASS CC FOR NORTH AMERICAN MARKET

- Version without indicator: 1P, 2P, 3P
- Version with indicator: 1P
- For 10x38mm UL/CSA class CC fuses
- Rated current: 30A
- Rated voltage: 600VAC.



Page 12-3

DC FUSE HOLDERS FOR PHOTOVOLTAIC APPLICATIONS

- Version without indicator: 1P, 2P
- Version with indicator: 1P, 2P
- For 10x38mm IEC class gPV fuses
- Rated current: 32A
- Rated voltage: 1000VDC
- IEC utilisation category: DC20B.



Page 12-3

DC FUSES FOR PHOTOVOLTAIC APPLICATIONS

- 10x38mm, IEC class gPV
- Rated current: 20A
- Rated voltage: 1000VDC.

[Handwritten signature]

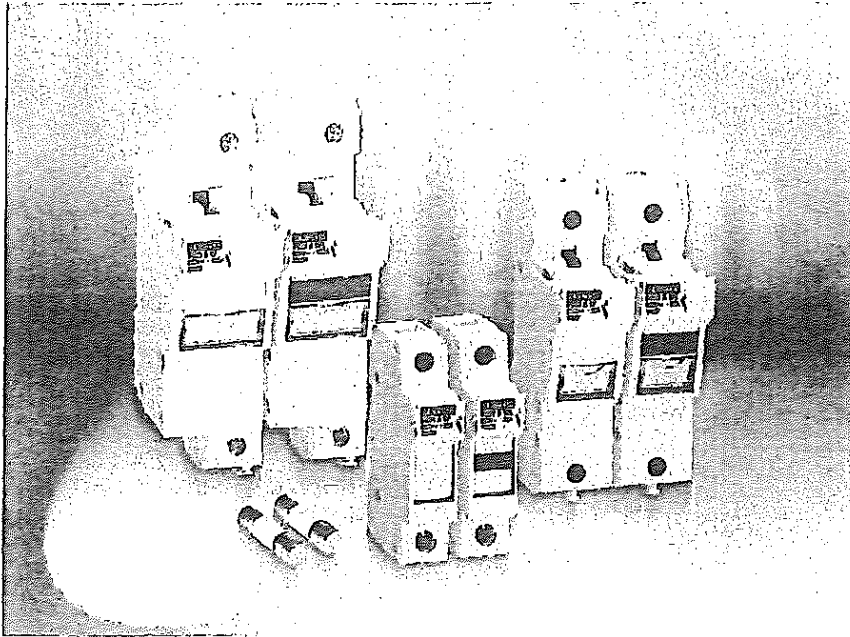
[Handwritten scribble]

БЪЛГАРСКО С
ПРОМИШЛЕНАТА



662

FUSE HOLDERS



- ▣ Modular size for 10x38, 14x51 and 22x58mm fuses
- ▣ Finger safe - IP20 IEC degree of protection against accidental contact with live parts and with sealable cover for operators' safety
- ▣ Version with status indicator to quickly determine if the fuse is still operative or needs to be replaced
- ▣ UL and CSA certified versions.

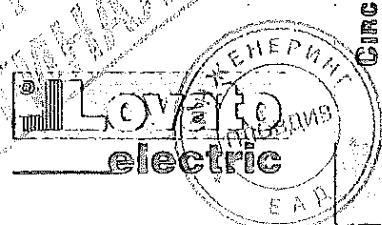
	SEC. - PAGE
Fuse holders	
AC fuse holders.....	12 - 2
DC fuse holders for photovoltaic applications.....	12 - 3
Fuses for photovoltaic applications	12 - 3
Accessories	12 - 3
Dimensions	12 - 4
Wiring diagrams	12 - 4
Technical characteristics	12 - 5

modulo

6624

Handwritten signature

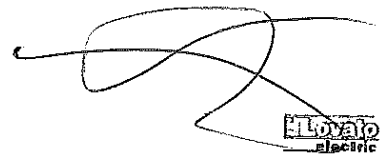
SAFETY
LOVATO
ELECTRIC



CIRCUIT PROTECTION AND ISOLATION

Fuse holders

AC fuse holders



Fuse holders UL Recognized and CSA certified

Order code	Pole arrangement	Status indicator	DIN size	Qty per pkg	Wt [kg]
------------	------------------	------------------	----------	-------------	---------

For 10x38mm fuses.
32A rated current at 690VAC.

FB01 A 1P	1P	—	1	12	0.066
FB01 A 1PL	1P	YES	1	12	0.065
FB01 A 1M	1P+N	—	1	12	0.062
FB01 A 1N	1P+N	—	2	6	0.134
FB01 A 2P	2P	—	2	6	0.132
FB01 A 3P	3P	—	3	4	0.188
FB01 A 3N	3P+N	—	4	3	0.260

For 14x51mm fuses.
50A rated current at 690VAC.

FB02 A 1P	1P	—	1	12	0.113
FB02 A 1PL	1P	YES	1	12	0.114
FB02 A 1N	1P+N	—	2	6	0.237
FB02 A 2P	2P	—	2	6	0.224
FB02 A 3P	3P	—	3	4	0.335
FB02 A 3N	3P+N	—	4	3	0.460

For 22x58mm fuses.
125A rated current at 690VAC.

FB03 A 1P	1P	—	1	12	0.167
FB03 A 1PL	1P	YES	1	12	0.167
FB03 A 1N	1P+N	—	2	6	0.354
FB03 A 2P	2P	—	2	6	0.334
FB03 A 3P	3P	—	3	4	0.500
FB03 A 3N	3P+N	—	4	3	0.720

⊖ Not certified.

Operational characteristics

- IEC rated voltage U_n :
 - 690VAC (FB01 A 1M excluded)
 - 400VAC (FB01 A 1M only)
- IEC rated current I_n :
 - FB01 A: 32A
 - FB02 A: 50A
 - FB03 A: 125A
- IEC utilisation category:
 - FB01 A: AC22B 500V, AC21B 690V (except FB01 A 1M: AC22B 400V)
 - FB02 A: AC22B 500V, AC21B 690V
 - FB03 A: AC21B 690V
- Suitable for IEC fuse class: gG and aM
- IEC degree of protection: IP20.

Certifications and compliance

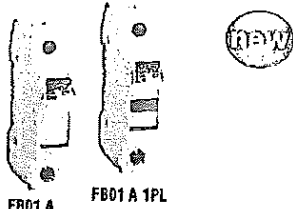
Certifications obtained:

Type	UL Recognized for USA (File E343395)	CSA certified (File 252040 class 6255)	UL Recognized for USA and Canada (File E343395)
FB01 A 1P, FB01 A 1PL, FB01 A 1N	⊙	⊙	—
FB02 A...	—	—	⊙
FB03 A...	—	—	⊙

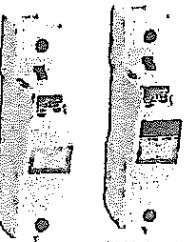
⊙ Certification obtained.

"UL Recognized": Products having this type of marking are intended for use as components of complete workshop-assembled equipment.

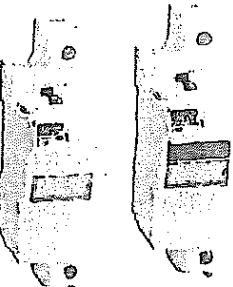
Compliant with standards: IEC/EN 60269-1, IEC/EN 60269-2, IEC/EN 60947-1, IEC/EN 60947-3, UL 4248-1, UL 4248-4, CSA C22.2 n°4248.1, CSA C22.2 n°4248.4.



FB01 A... FB01 A 1PL



FB02 A... FB02 A 1PL



FB03 A... FB03 A 1PL

12

Fuse holders

Order code	Pole arrangement	Status indicator	DIN size	Qty per pkg	Wt [kg]
------------	------------------	------------------	----------	-------------	---------

For 10x38mm fuses.
32A rated current at 690VAC.

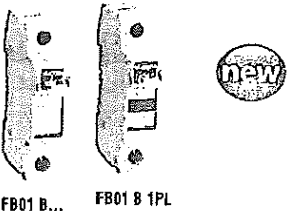
FB01 B 1P	1P	—	1	12	0.062
FB01 B 1PL	1P	YES	1	12	0.064
FB01 B 1N	1P+N	—	2	6	0.127
FB01 B 2P	2P	—	2	6	0.128
FB01 B 3P	3P	—	3	4	0.185
FB01 B 3N	3P+N	—	4	3	0.247

Operational characteristics

- IEC rated voltage U_n : 690VAC
- IEC rated current I_n : 32A
- IEC utilisation category: AC22B 500V, AC21B 690V
- Suitable for IEC fuse class: gG and aM
- IEC degree of protection IP20.

Reference standards

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3, IEC/EN 60269-1, IEC/EN 60269-2.



FB01 B... FB01 B 1PL

Fuse holders UL Listed and CSA certified for class CC fuses for North American market

Order code	Pole arrangement	Status indicator	DIN size	Qty per pkg	Wt [kg]
------------	------------------	------------------	----------	-------------	---------

For 10x38mm fuses.
30A rated current at 600VAC.

FB01 C 1P	1P	—	1	12	0.070
FB01 C 1PL	1P	YES	1	12	0.072
FB01 C 2P	2P	—	2	6	0.140
FB01 C 3P	3P	—	3	4	0.210

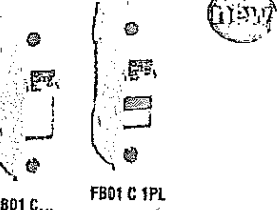
NOTE: UL Listed and CSA certified as "Fuseholders, Cartridge Fuse" for use with Class CC fuses. Interrupting rating 200,000 Amps rms symmetrical. Voltage rating 600V. Current rating 30A.

Operational characteristics

- IEC rated voltage U_n : 600VAC
- IEC rated current I_n : 30A
- IEC utilisation category: AC22B 500V, AC21B 690V
- Suitable for UL/CSA fuse class: CC
- IEC degree of protection IP20.

Certifications and compliance

Certifications obtained: UL Listed (File E343395) and CSA certified (File 252040 class 6225).
Compliant with standards: IEC/EN 60269-1, IEC/EN 60269-2, IEC/EN 60947-1, IEC/EN 60947-3, UL 4248-1, UL 4248-4, CSA C22.2 n°4248.1, CSA C22.2 n°4248.4.



FB01 C... FB01 C 1PL



1365

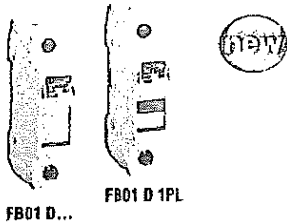
Fuse holders

DC fuse holders for photovoltaic applications.

Accessories



Fuse holders for photovoltaic applications



Order code	Pole arrangement	Status indicator	DIN size	Qty per pkg	Wt [kg]
			n°	n°	[kg]

For 10x38mm fuses.
32A rated current at 1000VDC.

FB01 D 1P	1P	—	1	12	0.064
FB01 D 1PL	1P	YES	1	12	0.065
FB01 D 2P	2P	—	2	6	0.127
FB01 D 2PL	2P	YES	2	6	0.130

Operational characteristics

- IEC rated voltage Ue: 1000VDC
- IEC rated current Ie: 32A
- IEC utilisation category: DC20B 1000VDC
- Suitable for IEC fuse class: gPV
- IEC degree of protection: IP20.

Reference standards

Compliant with standards: IEC/EN 60269-1, IEC/EN 60269-2, IEC/EN 60947-1, IEC/EN 60947-3.

Fuses for photovoltaic applications



Order code	Rated current In	Qty per pkg	Wt [kg]
	[A]	n°	[kg]

For 10x38mm fuses.
30kA breaking capacity at 1000VDC.

FE01 D 00200	2	10	0.008
FE01 D 00400	4	10	0.008
FE01 D 00600	6	10	0.008
FE01 D 00800	8	10	0.008
FE01 D 01000	10	10	0.008
FE01 D 01200	12	10	0.008
FE01 D 01600	16	10	0.008
FE01 D 02000	20	10	0.008

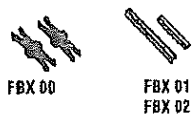
Operational characteristics

- IEC rated voltage Ue: 1000VDC
- IEC rated current Ie: 2-20A
- IEC fuse class: gPV.

Reference standards

Compliant with standards: IEC/EN 60269-6.

Accessories



Order code	Description	Qty per pkg	Wt [kg]
	[A]	n°	[kg]

FBX 00	Coupling clip for 10x38, 14x51 and 22x58mm sizes	100	0.003
FBX 01	Coupling pin for 10x38mm size	100	0.005
FBX 02	Coupling pin for 14x51 and 22x58mm sizes	100	0.008

For FB01 A... and FB01 B... types.

FBX 05	Three-phase connection busbar, for 57 modules in total, 1m/3.3ft long	10	0.465
FBX 07	One-pole terminal for 25mm ² max conductor	25	0.010
FBX 08	One-pole terminal for 50mm ² max conductor	25	0.020
FBX 11	End cap for FBX05 busbar	50	0.001

⊕ Not suitable for FB01 B1N, FB01 B2P, FB01 B3P and FB01 B3N types.

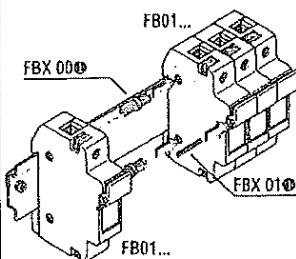
General and operational characteristics

- THREE-PHASE BUSBAR**
- Central point of power supply: 130A max
 - Side point of power supply: 80A max
 - Pitch: 18mm/0.7in
 - Busbar section: 10mm²
 - Number of modules/poles: 57
 - For paralleling connection
 - Length (standard supplied): 1m/3.3ft which can be cut in shorter sections.

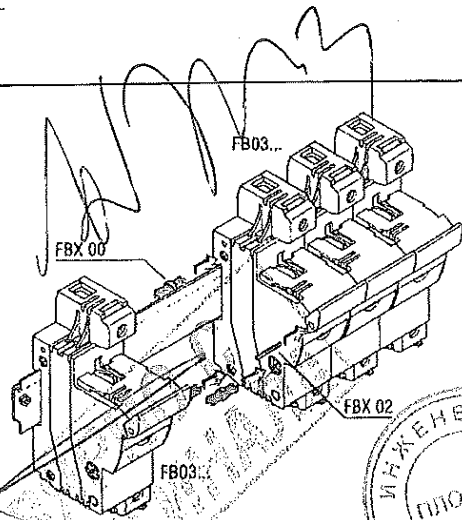
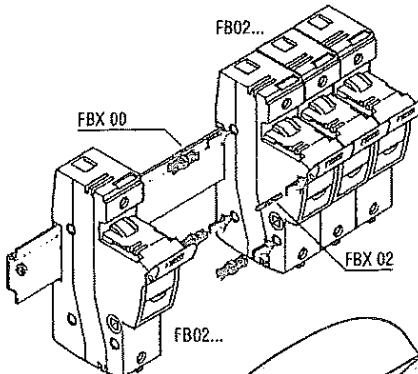
12

FBX 11

Fuse holder assembly in multiple pole configuration



⊕ Not suitable for FB01 B1N, FB01 B2P, FB01 B3P and FB01 B3N types.



Dimension page 12-1

Wiring diagrams page 12-4

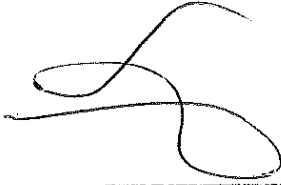
Technical characteristics page 12-5

123

666

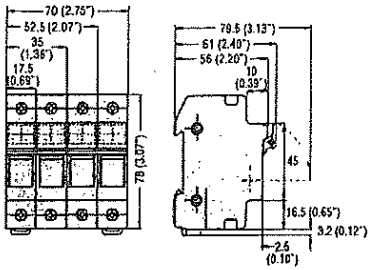
Fuse holders

Dimensions [mm (in.)]

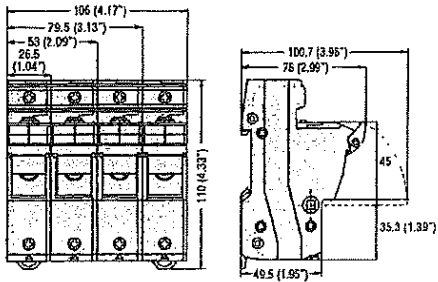


FUSE HOLDERS

FB01 A... FB01 B... FB01 C... FB01 D...

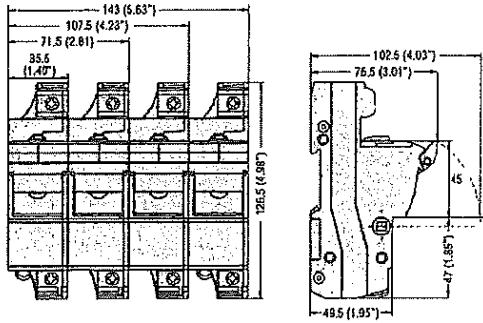


FB02 A...



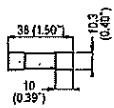
FB03 A...

12

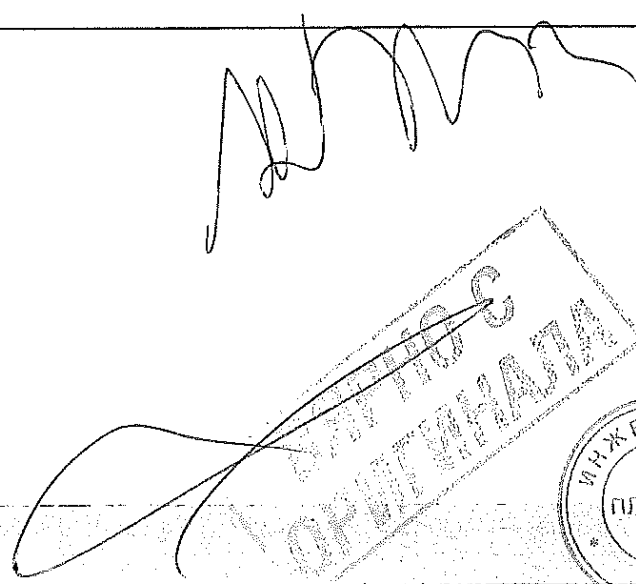
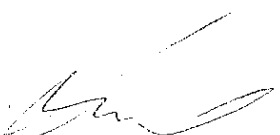
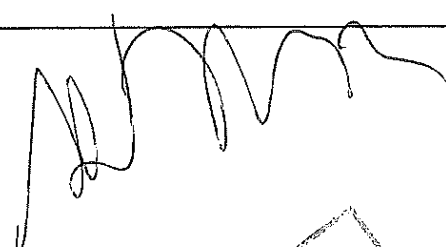
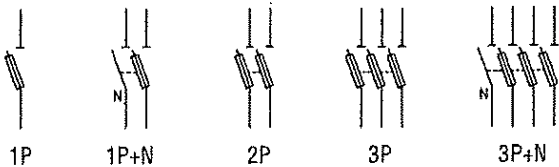


FUSES

FE01 D 0...



Wiring diagrams



Fuse holders

Technical characteristics



TYPE	FB01 A...	FB01 B...	FB02 A...	FB03 A...	FB01 C...	FB01 D...
Range	AC				Class CC (AC)	DC
IEC maximum rated current I _n	32A		50A	125A	30A	32A
IEC maximum rated voltage I _n	690VAC; 400VAC ⊕		690VAC		600VAC	1000VDC
IEC utilisation category	AC22B 500V; AC21B 690V; AC22B 400V ⊕			AC21B 690V	AC22B 600V; AC21B 690V	DC20B 1000VDC
Maximum power dissipation	3W		5W	9.5W	3W	4W
Derating factor of current I _n for different ambient temperatures	20°C	1				
	30°C	0.95				
	40°C	0.9				
	50°C	0.8				
	60°C	0.7				
	70°C	0.5				
Derating factor of current I _n for side-by-side fuse holders - n° poles	1-4	1				
	5-6	0.8				
	7-9	0.7				
	≥10	0.6				
Voltage for status indicator	120...690VAC		230...690VAC		120...600VAC	350...1000VDC

CONNECTIONS

Maximum tightening torque	2.5Nm; 2Nm ⊕ / 22lbin		3Nm / 26lbin	4Nm / 35lbin	2.5Nm / 22lbin	
Maximum conductor cross section	flexible/stranded	1x16mm ² ; 1-16mm ² ⊕ / BAWG	1x25mm ² / 6AWG	1x35mm ² / 2AWG	1x16mm ² / 8AWG	1x16mm ² / 6AWG
	rigid/solid	1x25mm ² ; 1-10mm ² ⊕ / BAWG	1x35mm ² / 8AWG	1x50mm ² / 1AWG	1x25mm ² / 10AWG	1x25mm ² / 4AWG

AMBIENT CONDITIONS

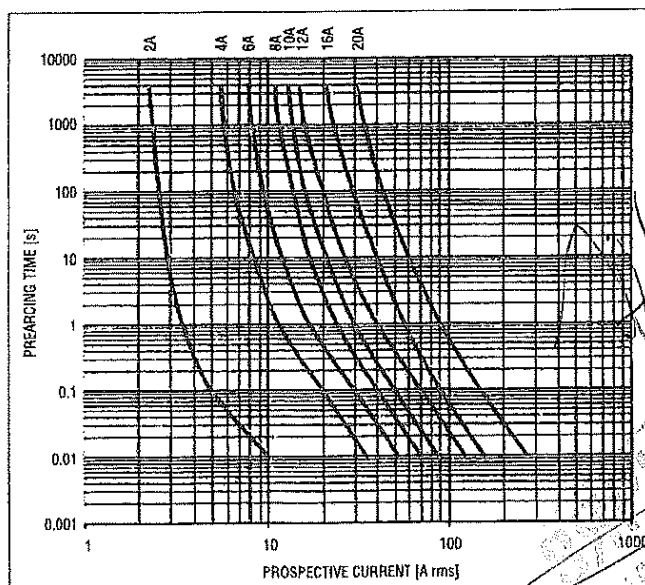
Operating temperature	-20...+70°C
Storage temperature	-40...+80°C
Maximum altitude	3,000m
Operation position	Any
Fixing	On 35mm DIN rail (IEC/EN 60715)

⊕ Values valid only for FB01 A 1M type.

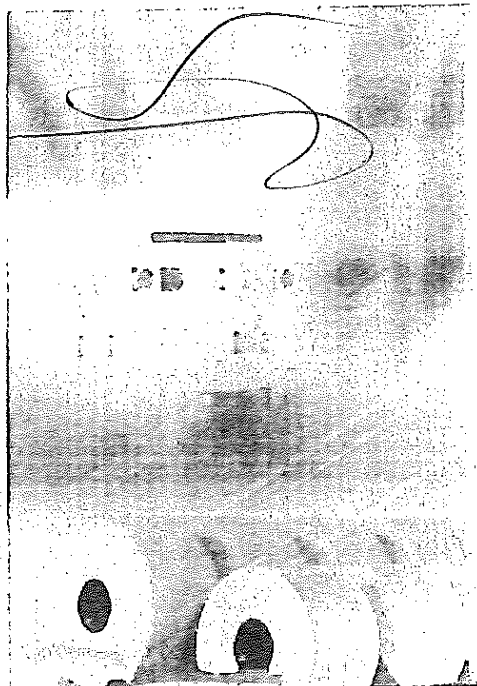
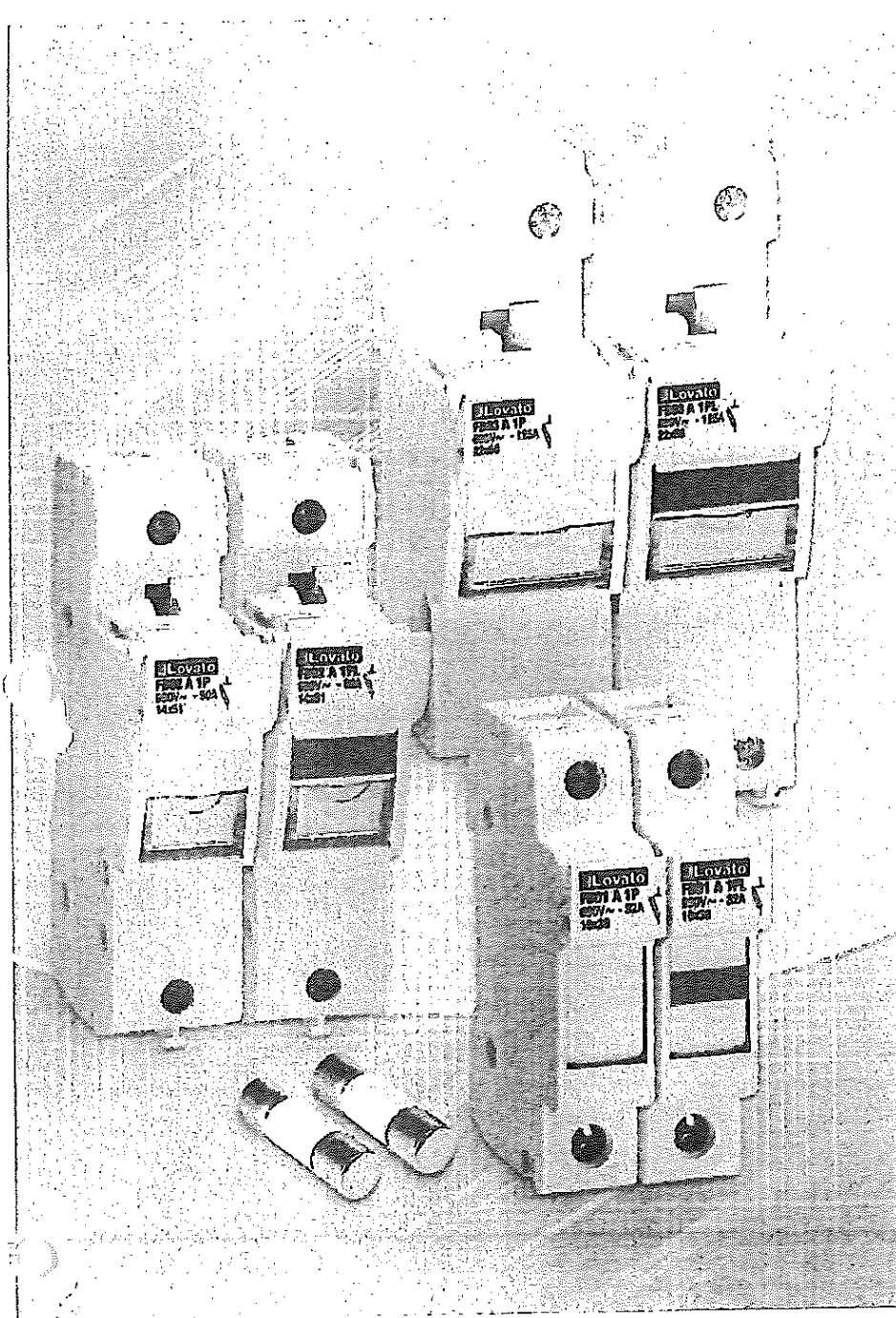
TECHNICAL CHARACTERISTICS FOR FE01 D... FUSES

TYPE	Rated current [A]	Power consumption at 0.7 I _n [W]	Power consumption at I _n [W]	Prearcing I ² t [A ² s]	Total I ² t at 1000VDC [A ² s]
FE01 D 00200	2	0.62	1.54	1.78	6.5
FE01 D 00400	4	0.73	1.84	3	11
FE01 D 00600	6	0.96	2.4	8.5	32
FE01 D 00800	8	1.02	2.55	25	93
FE01 D 01000	10	1.03	2.58	11	52
FE01 D 01200	12	1.04	2.6	25	116
FE01 D 01600	16	1.08	2.7	33	152
FE01 D 02000	20	1.16	2.9	85	390

TIME-CURRENT CHARACTERISTICS FOR FE01 D... FUSES




668



Fuse holders and fuses

Handwritten signature

 **Lovato**
electric
100% electricity

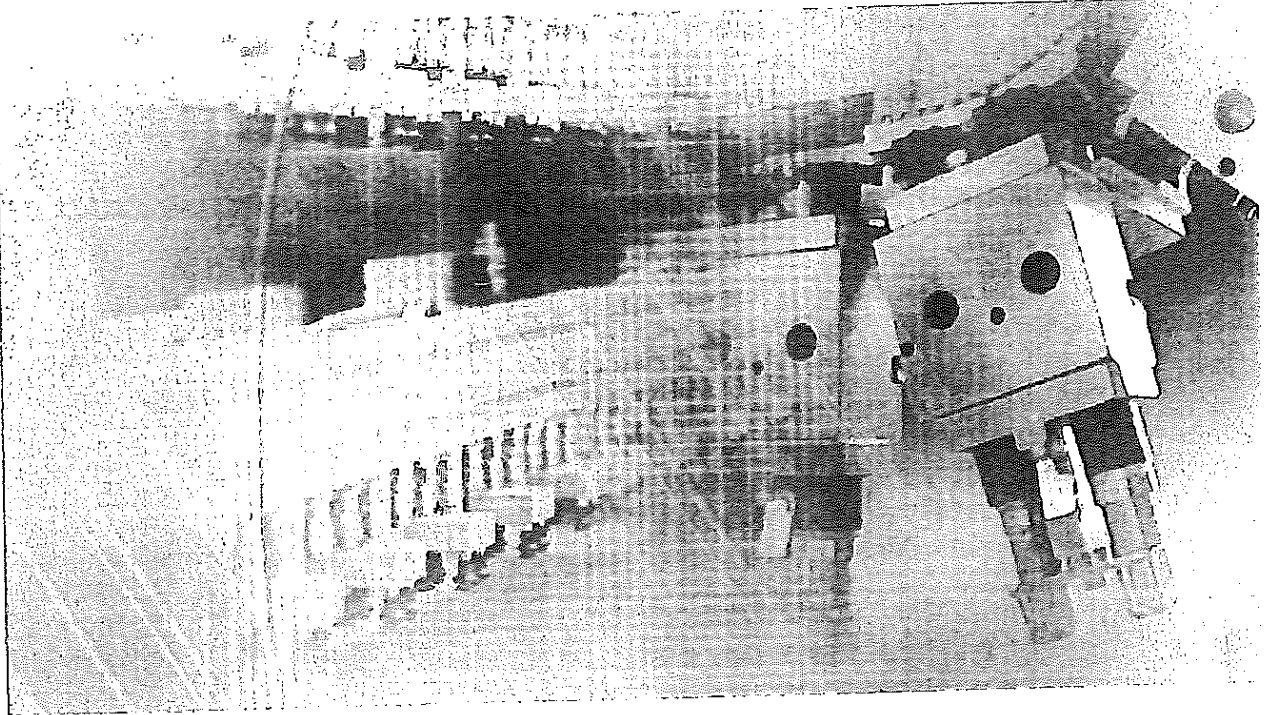
Handwritten signature

СЕРТИФИКАТ
СТАНДАРТА



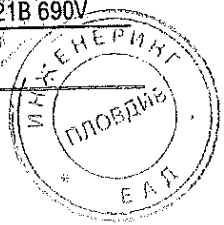
669

FUSE holders



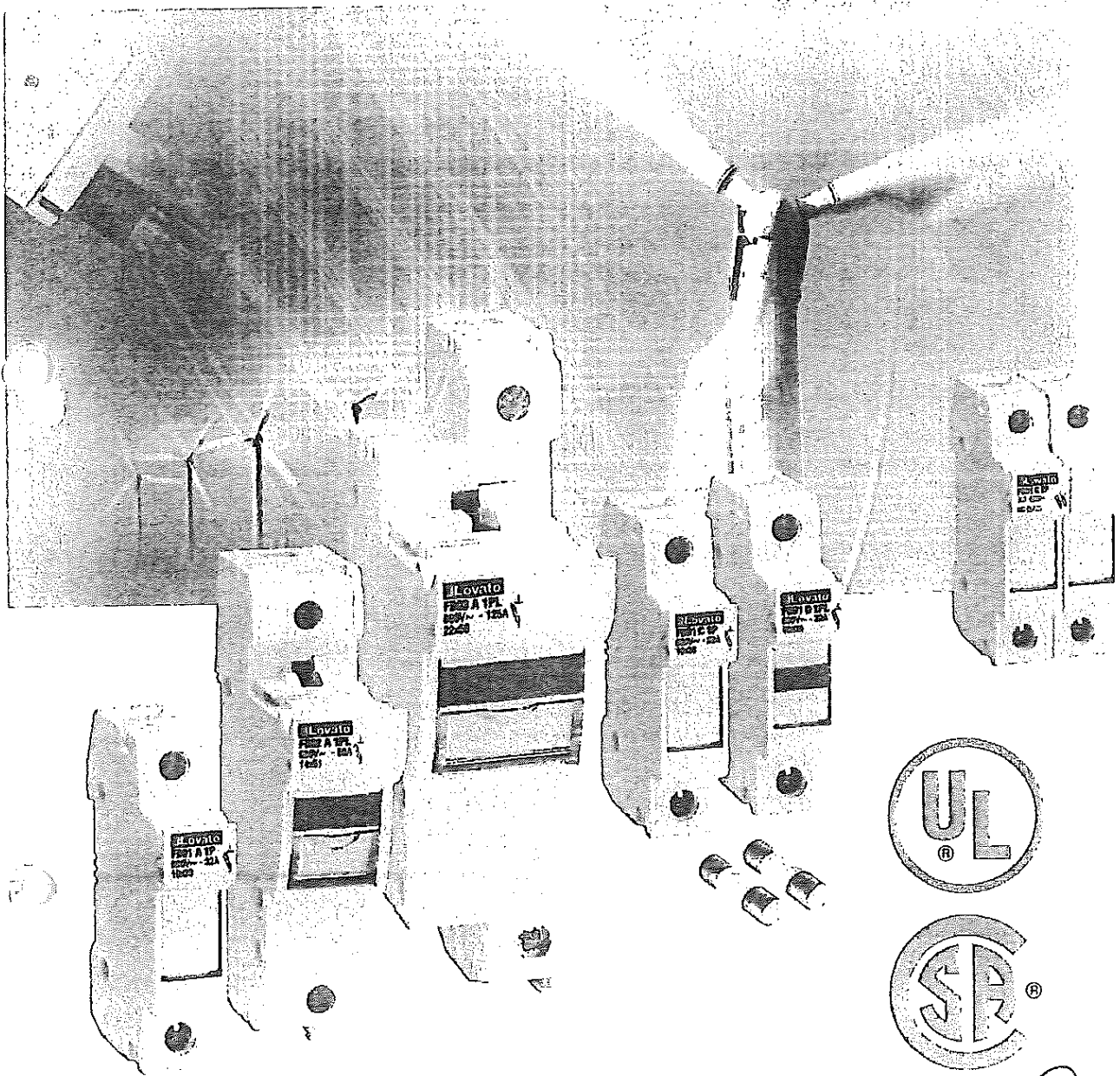
- ◆ Modular concept for quick assembly of different versions based on various requirements.
- ◆ Compact size compliant with standards for electrical equipment.
- ◆ DIN rail mounting and removal ease.
- ◆ IP20 protection degree, finger safe.
- ◆ Sealable cover in open or closed position to increase user's safety.
- ◆ Version with status indicator to quickly determine if the fuse is still operative or needs to be replaced.
- ◆ Ergonomic grip for easy cover opening.
- ◆ Dedicated cylindrical 10x38 DC fuses for photovoltaic systems.
- ◆ UL and CSA certified versions.

Range	AC			DC	DC FUSES	CLASS CC
Fuse size	10x38	14x51	22x58	10x38	10x38	10x38
Type	gG or aM			gPV	gPV	Class CC
Rated voltage	690VAC			1000VDC / 690VAC	1000VDC	600VAC
Rated current	32A	50A	125A	32A	20A	30A
Utilisation category	AC-22B 500V AC-21B 690V		-	DC-20B 1000VDC AC-21B 690V	DC-20B 1000VDC	AC-22B 500V AC-21B 690V



699

and fuses

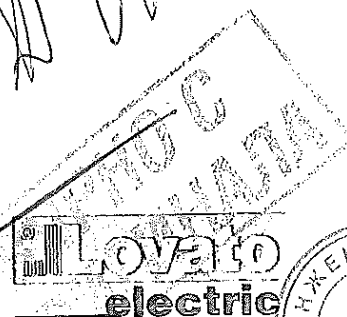
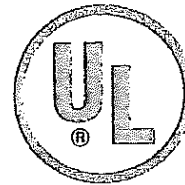


LOVATO Electric fuse holders can be used to protect against overloads and short circuits of electric lines, for motor protection and control and for the protection of electric installations.

This equipment can assure the disconnect function but is not suitable for isolation so cannot be used as switch disconnecter.

The range is available in two versions: with or without fuse status indicator. If the fuse fitted on the holder blows, the failure status is shown by the indicator on the fuse-holder front.

All the fuse holders are certified for the North-American market (UL Listed, UL Recognized and CSA). Furthermore, there is a non-certified version in 10x38mm size available too.



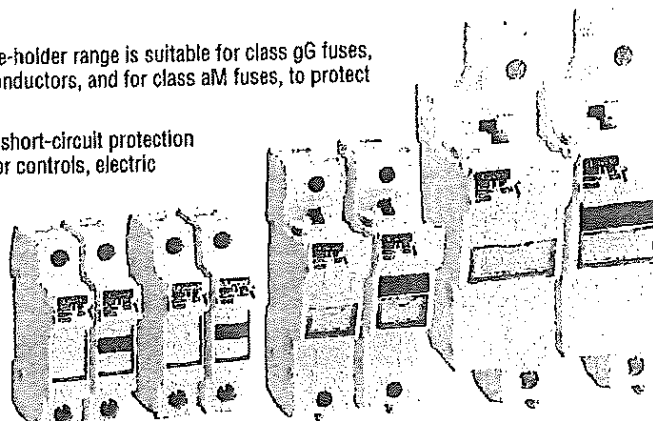
Fuse holders
RANGE

AG

LOVATO Electric AC fuse-holder range is suitable for class gG fuses, to protect cables and conductors, and for class aM fuses, to protect motor starting.

Function: Overload and short-circuit protection of control circuits, motor controls, electric installations.

Usage: Service industry, electric panels onboard machinery, electric installations in general.



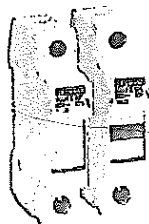
	FB01 A...	FB01 B...	FB02 A...	FB03 A...
Fuse size	10x38		14x51	22x58
Version without indicator	1P, 1P+N, 2P, 3P, 3P+N			
Version with indicator	1P			
Main characteristics				
- Rated voltage	690VAC			
- Rated current	32A		50A	125A
- Utilisation category	AC-22B 500V, AC-21B 690V		AC-22B 500V, AC-21B 690V	AC-21B 690V
- Suitable for fuses	10x38 gG or aM		14x51 gG or aM	22x58 gG or aM
- Maximum conductor cross section	16mm ² flexible/stranded; 25mm ² rigid/solid		25mm ² flexible/stranded; 35mm ² rigid/solid	35mm ² flexible/stranded; 50mm ² rigid/solid
Certifications obtained	UR, CSA	-	cURus	cURus
Compliant with standards	IEC/EN 60947-1, IEC/EN 60947-3, RoHS directive, UL512, CSA C22.2 n°39			

UR: UL Recognized; cURus: UL Recognized for USA and Canada.



Fuse holders
RANGE

CLASS CC



FB01 C...

LOVATO Electric fuse holders for class CC fuses are used to protect branch circuits, consisting of conductors and components following the last overcurrent protective device protecting a load, in industrial applications which require high breaking capacity.

Suitable only and exclusively for fitting fuses defined as "class CC", quite common on the North American market.

Usage: Service industry, electric panels onboard machinery, electric installations in general.

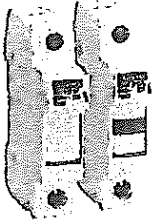
Fuse size	Class CC
Version without indicator	1P, 2P, 3P
Version with indicator	1P
Main characteristics	
- Rated voltage	600VAC
- Rated current	30A
- Utilisation category	AC-22B 500V, AC-21B 690V
- Suitable for fuses	10x38 class CC
- Maximum conductor cross section	16mm ² flexible/stranded; 25mm ² rigid/solid
Certifications obtained	UL, CSA
Compliant with standards	IEC/EN 60947-1, IEC/EN 60947-3UL512, RoHS directives, CSA 22.2 n° 39



6x72

Fuse holders

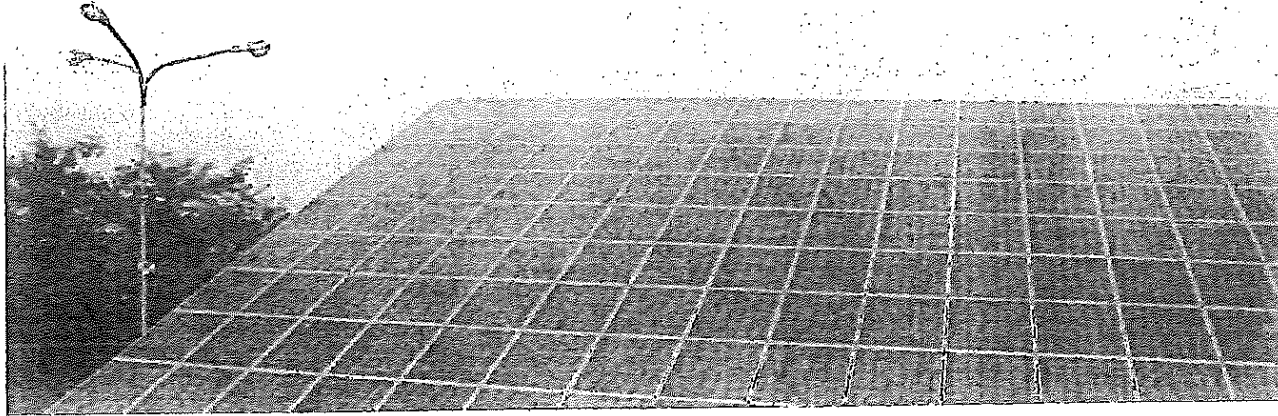
DC



FB01 D...

LOVATO Electric DC fuse holder range is suitable for 1000VDC rated voltage and gPV class. Used for overload and short-circuit protection of photovoltaic modules (strings) and the relative connecting cables.

Fuse size	10x38
Version without indicator	1P, 2P
Version with indicator	1P
Main characteristics	
- Rated voltage	1000VDC / 690VAC
- Rated current	32A
- Utilisation category	DC-20B 1000VDC, AC-21B 690V
- Suitable for fuses	10x38 gPV
- Maximum conductor cross section	16mm ² flexible/stranded, 25mm ² rigid/solid
Compliant with standards	
	IEC/EN 60947-1, IEC/EN 60947-3, RoHS directive



Fuses

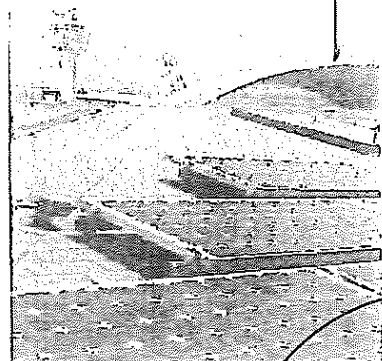
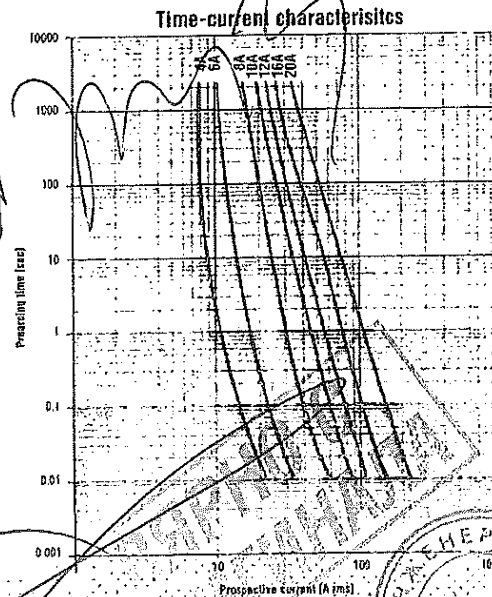
DC



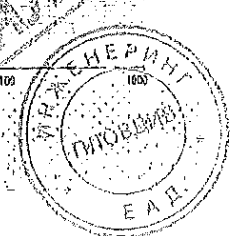
FE01 D 0...

LOVATO Electric offers a range of cylindrical 10x38 fuses dedicated to photovoltaic duty and designed for 1000VDC maximum use. Contrary to AC type fuses that blow for high overcurrent values, this type of DC fuse is designed to blow with low-intensity overcurrent values, created on photovoltaic cells and panels.

Fuses for photovoltaic application	
Breaking capacity	30kA
Main characteristics	
- Rated voltage	1000VDC
- Rated current	2...20A



673

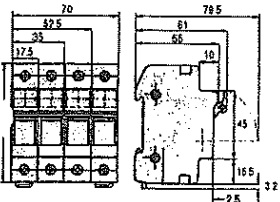


TECHNICAL CHARACTERISTICS

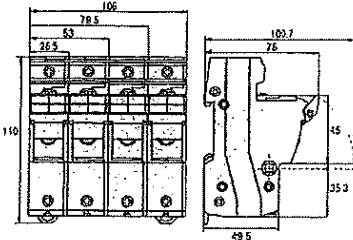
Type	FB01 A...	FB01 B...	FB02 A...	FB03 A...	FB01 C...	FB01 D...	
Range	AC	AC	AC	AC	Class CC (AC)	DC	
Certifications obtained	UR, CSA	—	cURus	cURus	UL, CSA	—	
Maximum power dissipation	3W	3W	5W	9.5W	3W	4W	
Derating factor of current I _e for different ambient temperatures	20°C	1	1	1	1	1	
	30°C	0.95	0.95	0.95	0.95	0.95	
	40°C	0.9	0.9	0.9	0.9	0.9	
	50°C	0.8	0.8	0.8	0.8	0.8	
	60°C	0.7	0.7	0.7	0.7	0.7	
	70°C	0.5	0.5	0.5	0.5	0.5	
Derating factor of current I _e for sid-by-side fuse holders - n° poles	1-3	1	1	1	1	1	
	4-6	0.8	0.8	0.8	0.8	0.8	
	7-9	0.7	0.7	0.7	0.7	0.7	
>10	0.6	0.6	0.6	0.6	0.6	0.6	
Voltage for status indicator	120...690VAC	120...690VAC	230...690VAC	230...690VAC	120...600VAC	350...1000VDC	
CONNECTIONS							
Maximum tightening torque	2.5Nm/22lbin	2.5Nm/22lbin	3Nm/26lbin	4Nm/35lbin	2.5Nm/22lbin	2.5Nm/22lbin	
Maximum conductor cross section	flexible/stranded	1-16mm ² /8 AWG	1-16mm ² /6 AWG	1-25mm ² /4 AWG	1-35mm ² /2 AWG	1-16mm ² /8 AWG	1-16mm ² /6 AWG
	rigid/solid	1-25mm ² /8 AWG	1-25mm ² /4 AWG	1-35mm ² /2 AWG	1-50mm ² /1 AWG	1-25mm ² /10 AWG	1-25mm ² /4 AWG
AMBIENT CONDITIONS							
Operating temperature	-20...+70°C	-20...+70°C	-20...+70°C	-20...+70°C	-20...+70°C	-20...+70°C	
Storage temperature	-40...+80°C	-40...+80°C	-40...+80°C	-40...+80°C	-40...+80°C	-40...+80°C	
HOUSING							
Din rail mount version	Yes	Yes	Yes	Yes	Yes	Yes	
Degree of protection	IP20	IP20	IP20	IP20	IP20	IP20	

DIMENSIONS

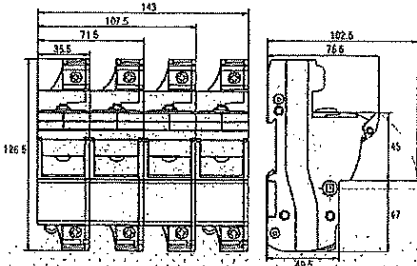
FB01 A... FB01 B... FB01 C... FB01 D...



FB02 A...

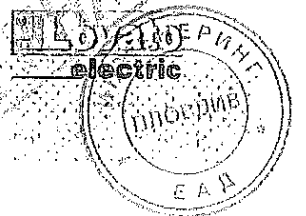
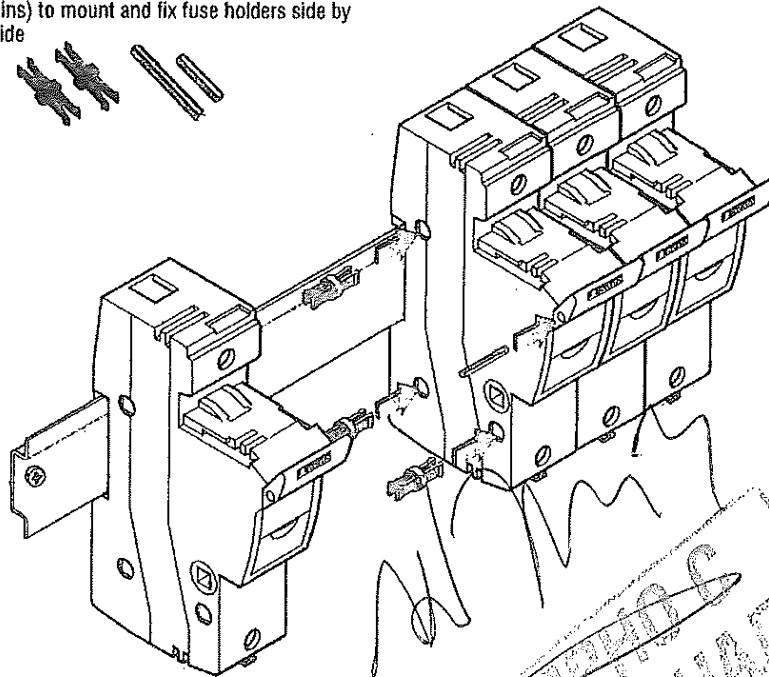


FB03 A...



ASSEMBLY

Accessories: Coupling elements (clips and pins) to mount and fix fuse holders side by side



276

HOW TO ORDER

FUSE HOLDERS

Order code	Pole arrangement	DIN modules	Status indicator	Rated voltage Ue [V]	Rated nominal current Ie [A]	Qty per pkg n°	Weight [kg]
Fuse holder (fuse disconnecter), 10x38, certified by UR and CSA.							
FB01 A 1P	1 pole	1	-	690VAC	32	12	0.750
FB01 A 1PL	1 pole	1	Yes	690VAC	32	12	0.750
FB01 A 1N	1 pole + N	2	-	690VAC	32	6	0.750
FB01 A 2P	2 poles	2	-	690VAC	32	6	0.750
FB01 A 3P	3 poles	3	-	690VAC	32	4	0.750
FB01 A 3N	3 poles + N	4	-	690VAC	32	3	0.750
Fuse holder (fuse disconnecter), 14x51, certified by eURus.							
FB02 A 1P	1 pole	1.5	-	690VAC	50	6	1.000
FB02 A 1PL	1 pole	1.5	Yes	690VAC	50	6	1.000
FB02 A 1N	1 pole + N	3	-	690VAC	50	3	1.000
FB02 A 2P	2 poles	3	-	690VAC	50	3	1.000
FB02 A 3P	3 poles	4.5	-	690VAC	50	2	1.000
FB02 A 3N	3 poles + N	6	-	690VAC	50	1	0.650
Fuse holder (fuse disconnecter), 22x58, certified by eURus.							
FB03 A 1P	1 pole	2	-	690VAC	125	6	1.050
FB03 A 1PL	1 pole	2	Yes	690VAC	125	6	1.050
FB03 A 1N	1 pole + N	4	-	690VAC	125	3	1.050
FB03 A 2P	2 poles	4	-	690VAC	125	3	1.050
FB03 A 3P	3 poles	6	-	690VAC	125	2	1.050
FB03 A 3N	3 poles + N	8	-	690VAC	125	1	0.70c
Fuse holder (fuse disconnecter), class CC, certified by UL and CSA.							
FB01 C 1P	1 pole	1	-	600VAC	30	12	0.750
FB01 C 1PL	1 pole	1	Yes	600VAC	30	12	0.750
FB01 C 2P	2 poles	2	-	600VAC	30	6	0.750
FB01 C 3P	3 poles	3	-	600VAC	30	4	0.750
Fuse holder (fuse disconnecter), 10x38.							
FB01 B 1P	1 pole	1	-	690VAC	32	12	0.750
FB01 B 1PL	1 pole	1	Yes	690VAC	32	12	0.750
FB01 B 1N	1 pole + N	2	-	690VAC	32	6	0.750
FB01 B 2P	2 poles	2	-	690VAC	32	6	0.750
FB01 B 3P	3 poles	3	-	690VAC	32	4	0.750
FB01 B 3N	3 poles + N	4	-	690VAC	32	3	0.750
Fuse holder (fuse disconnecter), 10x38, for photovoltaic applications.							
FB01 D 1P	1 pole	1	-	1000VDC	32	12	0.750
FB01 D 1PL	1 pole	1	Yes	1000VDC	32	12	0.750
FB01 D 2P	2 poles	2	-	1000VDC	32	6	0.750

FUSES FOR PHOTOVOLTAIC APPLICATIONS

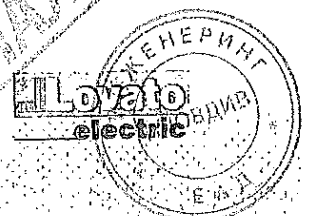
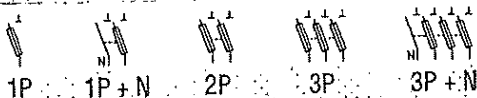
Order code	Rated breaking capacity [kA]	Rated voltage Ue [V]	Rated current Ie [A]	Qty per pkg n°	Weight [kg]
FE01 D 00200	30	1000VDC	2	10	0.130
FE01 D 00400	30	1000VDC	4	10	0.130
FE01 D 00600	30	1000VDC	6	10	0.130
FE01 D 00800	30	1000VDC	8	10	0.130
FE01 D 01000	30	1000VDC	10	10	0.130
FE01 D 01200	30	1000VDC	12	10	0.130
FE01 D 01600	30	1000VDC	16	10	0.130
FE01 D 02000	30	1000VDC	20	10	0.130

ACCESSORIES

Order code	Description	Qty per pkg n°	Weight [kg]
FBX 00	Coupling clip for 10x38, 14x51 and 22x58 sizes	100	0.050
FBX 01	Coupling pin for 10x38 size	100	0.130
FBX 02	Coupling pin for 14x51 and 22x58 sizes	100	0.150

N.B. Two clips FBX 00 and one pin FBX 01 are needed to couple two fuse holder FB01... types.
Three clips FBX 00 and one pin FBX 02 are needed to couple two fuse holder FB02... and FB03... types.

WIRING DIAGRAMS



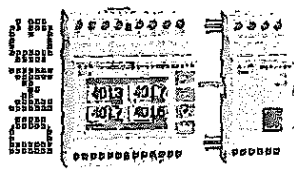
675

new

2011



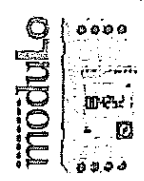
Switch disconnectors
16 to 1600A



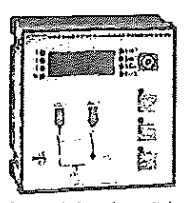
Modular digital multimeters



Flush-mount digital multimeters
and power analyzers



Energy meters



Automatic transfer switch
controllers



Switching power supplies



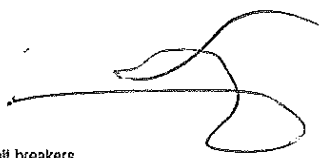
100% electricity

Switch

PLC

Logic

- Motor protection circuit breakers
- Switch disconnectors
- Contactors
- Motor protection relays
- Electromechanical starters
- Control and signalling units
- Limit, micro and foot switches
- Rotary cam switches
- Modular contactors
- Time relays
- Protection relays
- Level control relays
- Earth leakage relays
- Fuse holders
- Metering instruments and current transformers
- Soft starters
- AC motor drives
- Automatic power factor controllers
- Automatic battery chargers
- Automatic transfer switch controllers
- Programmable logic relays
- Switching power supplies
- Expansion modules and accessories



ClaroEmporioCreative@gmail.com

The products described in this publication are subject to be revised or improved at any moment. Catalogue descriptions and details, such as technical and operational data, drawings, diagrams and instructions, etc., do not have any contractual value. In addition, products should be installed and used by qualified personnel and in compliance with the regulations in force for electrical systems in order to avoid damages and safety hazards.

www.LovatoElectric.com

LOVATO ELECTRIC S.P.A.
CONTROL SOLUTIONS FOR INDUSTRY
VIA DON E. MAZZA, 12 - 24020 GORLE (BERGAMO) ITALY
Tel. +39 035 4282111 Fax +39 035 4282200
E-mail: info@LovatoElectric.com

Present in over 90 countries

Sales department: Tel. +39 035 4282354 - Fax +39 035 4282400

LOVATO Electric offices in the world

United Kingdom
LOVATO (UK) LTD
Tel. +44 8456 110023
www.Lovato.co.uk

Germany
DELTEC LOVATO GmbH
Tel. +49 7237 1733
www.DeltecLovato.de

Spain
LOVATO ELECTRIC S.L.U.
Tel. +34 93 7612016
www.LovatoElectric.es

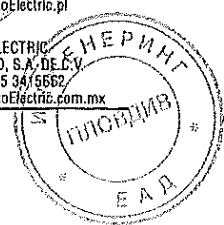
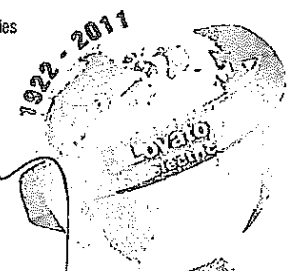
Poland
LOVATO ELECTRIC SP. Z O.O.
Tel. +48 71 7979010
www.LovatoElectric.pl

Czech Republic
LOVATO S.R.O.
Tel. +420 382 265482
www.Lovato.cz

USA
LOVATO ELECTRIC INC
Tel. +1 767 545 4700
www.LovatoUsa.com

Canada
LOVATO ELECTRIC CORPORATION
Tel. +1 450 681 9200
www.Lovato.ca

Mexico
LOVATO ELECTRIC DE MEXICO, S.A. DE C.V.
Tel. +52 555 3415662
www.LovatoElectric.com.mx



POB7 68 01 11

676

ТЕХНИЧЕСКИ ХАРАКТЕРИСТИКИ

Предлаганите клеми са производство на фирма Phoenix Contact – Германия. Фирмата е сертифицирана по ISO 9001. Клемите са тествани и са в съответствие с IEC 60 947-7-1, IEC 60947-1, IEC 60695-2-2, EN 50019, а също така притежават и други сертификати, които са дадени за всяка клема в каталога.

Клемите на Phoenix Contact са с универсална основа за закрепване както към симетрична шина NS 35/7,5, NS 35/15, така и към несиметрична - NS 32. Кабелните входове на клемата са затворени фунии, което улеснява въвеждането на проводника. Всички клеми имат гнезда за индивидуално и рационално маркиране.

Предлаганите клеми, производство на Phoenix Contact притежават следните по-важни качества:

- **всички метални части са устойчиви на електролитна корозия и ръжда**
Всички метални елементи на клемите са изработени от медна сплав, с високо съдържание на мед, като напълно се избягва използването на стомана. Това елиминира две възможни причини за корозия: Едната е електролитна корозия, която възниква между медния проводник и стоманата, при наличие на влага. Втората е ръждата и последиците от нея – ненадежден електрически контакт, блокирани винчета. Използването само на медна сплав има и допълнителни предимства като: 1) ниско температурно повишение, поради високата електрическа проводимост и 2) по-малко вероятно е разхлабване на винчетата, тъй като практически няма относително термично разширение между проводника и притискащата част. Повърхността на металните части е защитена с калаено или никелово галванично покритие.

- **блокиране на винчетата срещу саморазвиване**
Phoenix Contact притежава патент, наречен "Reakdyn principle" за предпазване на винчетата от саморазвиване. Конструкцията на притискащата част е на принципа на движеща се клетка. При завъртане на винта, той натиска тоководещата част и издърпва проводника в клетката към тоководещата част. Поради високата притискаща сила проводника се интегрира в мекото калаено покритие на тоководещата част. Така се постига контактно съпротивление което превишава изискванията на IEC 60 947-7-1, като за клема 4 mm^2 то е $0,3 \text{ m}\Omega$. Поради специалната си форма при затягане на винчето горната част на клетката се деформира еластично и предизвиква нарастваща триеща сила в главата на винчето, която не му позволява да се саморазвие.

- **надежна механична и електрическа връзка, съгласно IEC 60 947-7-1**
Конструкцията на притискащата част на клемата не само удовлетворява тези изисквания, но дори ги надвишава, поради следните качества: 1) Равната основа на притискащата част гарантира, че дори и най-тънкият проводник ще бъде стегнат както трябва., 2) напречните жлебове на тоководещата част гарантират нарушаване оксидацията по проводника, без да го извиват и така осигуряват добър контакт., 3) стабилната конструкция на притискащите части, заедно с високата точност при изработка, осигуряват връзка, недопускаща проникването на газ, както и голяма



277

сила на притискане. Това означава, че условията за контакт могат да се поддържат стабилни за дълъг период от време, дори в агресивна атмосфера.

- качества на изолационния материал

Изолационния материал на клемите, които са предмет на настоящия търг е Полиамид 6.6. Този материал е одобрен от всички оторизирани лаборатории като CSA, NEMKO, KEMA, VDE и др. Той има отлични електрически, механични, химически и други качества, дори при високи температури. Позволен са кратковременно температури до 200° С. Полиамида абсорбира вода до 2,8%, но тази влага не е във формата на кристализирана вода в пластмасата, а е химически свързана в молекулната структура. Това прави пластмасата гъвкава и нечувствителна, дори при ниски температури от -40° С. Полиамида има клас на негоримост V0, съгласно UL 94.

Максималния допустим ток на клемите зависи от максимално допустимото сечение на проводника и е в съответствие с IEC 60947-7-1.

Съответствие на техническите изисквания

Съгласно горното, предлаганите клемите притежават следните характеристики в съответствие с техническите изисквания:

1. Проводниците се присъединяват към клемите чрез винтова връзка, осигуряваща необслабваща електрическа връзка при вибрации и стареене;
2. Проводимите и притискащи части са устойчиви срещу електролитна корозия и ръжда. Гарантиран клас на негоримост – V0 съгласно UL 94;
3. Повишена механична устойчивост;
4. Изолационният материал не абсорбира влага;
5. Клемите са с гнезда за поставяне на етикети от двете страни;
6. Клемите се монтират върху универсална монтажна рейка. Възможен е монтаж както към симетрична шина NS 35/7,5, NS 35/15, така и към несиметрична - NS 32
7. Токови клемите:
 - Пофазно шунтиране на токовете вериги към ТТ с подвижни (фиксиращи към клемата) или преносими изолирани мостове, съгласно приложената схема;
 - Видимо разкъсване на токовете вериги след шунтиране;
 - Включване на товарно устройство за тестване – монтирана или с възможност за монтаж на тест буска с диаметър 4mm;
 - Видимо разделяне на токовете вериги по предназначение (ядра);
8. Напреженови вериги:
 - Видимо разкъсване ;
 - Включване на товарно устройство за тестване – монтирана или с възможност за монтаж на тест буска с диаметър 4mm;
 - Възможност за видимо разделяне на напреженовите вериги по фази и предназначение;
 - Възможност за включване на измервателни уреди от двете страни на клемата;



Кратко описание на предложените клеми и аксесоари към тях

1. URTK/S

Клеми с винтова връзка за присъединяване на кръгъл твърд проводник до 10mm² или гъвкав проводник с/без накрайник до 6mm². Клемата е с възможност за фиксирано разкъсване на връзката, с гнезда за присъединяване на тестови проводници или за поставяне на шунтиращи мостчета от двете страни на клемата - щифт 4mm. Тази клема е универсална и удовлетворява всички изисквания за яснота на веригата, удобства за превключване. Клемата предлага няколко типа на замостване: чрез конектори с изолирана ръкохватка (2, 4 поз.), превключващи мостове (2, 4 поз.) за окъсяване на трансформаторни вериги, фиксиран мост – 10 позиционен, делим, окомплектован с винтове. Гнездата за тестови проводник или шунтиращ конектор всяка страна са независими от винта за присъединяване на проводника.

2. URTK/SP

Клеми с винтова връзка за присъединяване на кръгъл твърд проводник до 10mm² или гъвкав проводник с/без накрайник до 6mm². Клемата е с възможност за фиксирано разкъсване на връзката, с гнезда за присъединяване на тестови проводници или за поставяне на шунтиращи мостчета от двете страни на клемата - щифт 4mm. Тази клема е универсална и удовлетворява всички изисквания за яснота на веригата, удобства за превключване и защита от допир до тоководещи части. Клемата предлага няколко типа на замостване: чрез изолирани превключващи мостове (2, 3, 4, 10 поз.), неизолиран фиксиран мост, конектори с изолирана ръкохватка (2, 4 поз.) Гнездата за тестови проводник или шунтиращ конектор са напълно изолирани.

3. D-URTK

Крайна капачка за клема URTK/S.

4. Разделителна пластина ATP-URTK/SP.

Секционна разделителна пластина за визуално и електрическо разделяне на клемни групи за директен монтаж на DIN шина. Дебелина: 2 мм.

Подходяща за използване с всички токови и напреженови клеми.

5. Шунтиращ мост SB 2-RTK/S.

Двупозиционен подвижен, шунтиращ мост за клеми URTK/S.

6. Шунтиращ мост SB 2-URTK/SP.

Двупозиционен изолиран, подвижен, шунтиращ мост за клеми URTK/SP.

7. Фиксатор за клемен пакет CLIPFIX 35.

Фиксатор със защипване за симетрични шини 35/7,5 мм, 35/15 мм.

Ширина: 9,5 мм. Материал: полиамид.

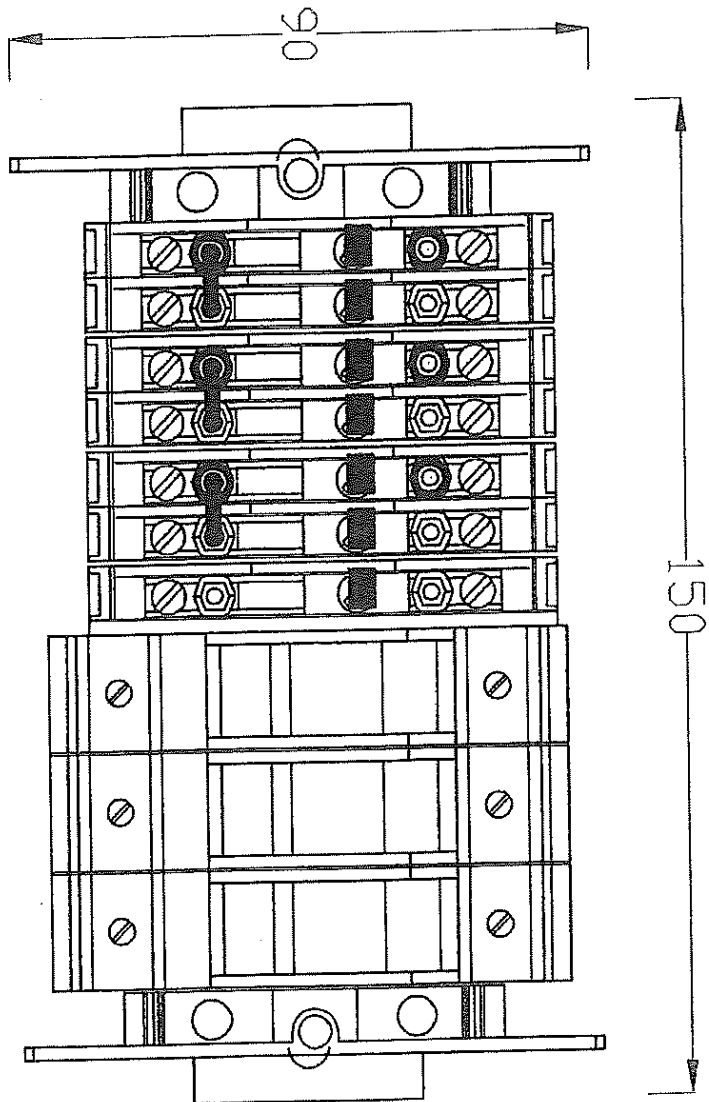
Клас на запалимост: V0. Цвят: сив.

Може да се маркира със стандартни клемни маркировки ZB, маркировки KLM, KLM 2.

Съставил:


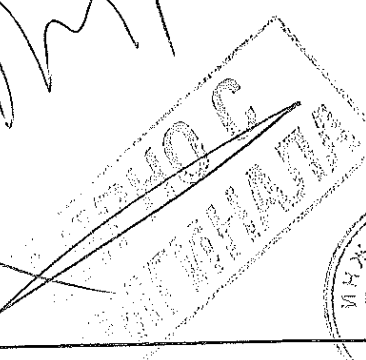
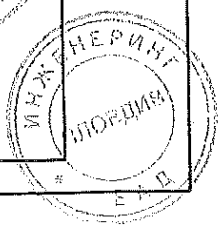
На основание чл. 2
от ЗЗЛД





ВИБ ИЗОМЕТРИК 001
 1680 София, ул. "Тимур" №40А
 тел. 02 958 63 40, 958 63 44, 958 31 11, факс 958 22 70
ОБЕКТИВНА РАБОТНА КЛИМЕНТА ЧЕЗ

ЧОСТ	ЛИСТ № 1 / 1	СЪГЛАСИВАЛИ:
ЕДИН: П1	НАИМЕН: -	
	ВЪЗЛОЖИТЕЛ:	
	ЧЕРТЕЖ:	
	Р-Л ФИЗИКАЛЕН ВЪН. ДИЗАЙН:	

1680



PHOENIX CONTACT GmbH & Co. KG
 Flachsmarktstraße 8
 32825 Blomberg, Germany
 Telefon: +49-5235 300
 Telefax: +49 5235 3-41200
 Internet: <http://www.phoenixcontact.com>
 USt-Id-Nr.: DE124613250
 WEEE-Reg.-Nr.: DE50738265

PHOENIX CONTACT GmbH & Co. KG · 32823 Blomberg

TO WHOM IT MAY CONCERN

Development Quality Laboratory
 Business Unit
 Industrial Connection Technology

Phone: ++49 / (0) 52 35/34 20 71
 Fax: ++49 / (0) 52 35/341 2 06

04st of Decembre 2009

Confirmation

Dear Sir or Madam,

We hereby confirm that the universal test disconnect terminal block URTKVS (0311087) is applicable at the rated insulation voltage up to 500 V in accordance to IEC 60947-7-1:2002-07 (partly)

На основание чл. 2
от ЗЗЛД

PHOENIX CONTACT GmbH & Co. KG
 Flachsmarktstraße 8
 32825 Blomberg, Germany
 Development Quality Laboratory
 Business Unit
 Industrial Connection Technology

Ing. Alessandro Alberani

Pers. haftende Gesellschafterin:
 Phoenix Contact Verwaltungs GmbH
 Amtsgericht Lemgo HRB 5273
 Kom. Ges. Amtsgericht Lemgo HRA 3746

Geschäftsführer: Klaus Eisert,
 Roland Bent, Dr. Martin Heubeck,
 Prof. Dr. Gunther Olesch,
 Frank Stührenberg, Dr. Heinz Wesch

Deutsche Bank AG Essen
 (BLZ 360 700 50) 228 266 500
 Commerzbank Lemgo
 (BLZ 476 400 51) 226 039 600

Stadtsparkasse Blomberg
 (BLZ 476 512 25) 44 008
 Postbank Essen
 (BLZ 360 100 43) 75 954 34



681



PHOENIX CONTACT GmbH & Co. KG
 Flachmarktstraße 8
 32825 Blomberg, Germany
 Telefon: ++49 / (0) 52 35/300
 Telefax: ++49 / (0) 52 35/34 12 00
 Internet: <http://www.phoenixcontact.com>
 USt-Id-Nr.: DE124613250

PHOENIX CONTACT GmbH & Co. KG · 32823 Blomberg

TO WHOM IT MAY CONCERN

Development Quality Laboratory
 Business Unit
 Industrial Connection Technology

Telefon: ++49 / (0) 52 35/34 20 71
 ++49 / (0) 52 35/34 10 97
 Telefax: ++49 / (0) 52 35/34 12 06

04th of Decembre 2009

Certification regarding the static use of modular terminal blocks in the temperature range from -60°C to +120°C

Dear Sir or Madam,

Based on the available documentation of our plastic suppliers, we herewith certify for the non-reinforced polyamide plastics used in the area of CLIPLINE (Industrial Connection Technology) as follows:

Considering self-heating, articles made of the above materials can be used in static operation from -60°C to +120°C.

Best regards

PHOENIX CONTACT GmbH & Co. KG

На основание чл. 2
от ЗЗЛД

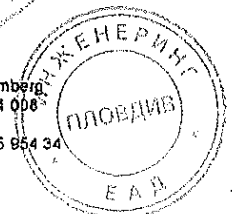
На основание чл. 2
от ЗЗЛД

Pers. haftende Gesellschafterin:
 Phoenix Contact Verwaltungs GmbH
 Amtsgericht Lemgo HRB 5273
 Kom. Ges. Amtsgericht Lemgo HRA 3746

Geschäftsführer: Klaus Eisert,
 Roland Bent, Dr. Martin Heubeck,
 Prof. Dr. Günther Olesch,
 Frank Stührenberg, Dr. Heinz Wesch

Deutsche Bank AG Essen
 (BLZ 360 700 50) 226 266 500
 Commerzbank Lemgo
 (BLZ 476 400 51) 226 039 600

Stadtsparkasse Blomberg
 (BLZ 476 512 25) 44 008
 Postbank Essen
 (BLZ 360 100 43) 75 954 34



0829

CERTIFICATE

Manufacturer:
Phoenix Contact GmbH & Co.
Postfach 13 03 23
Blomberg Germany

Product: **URTK/S-BEN BU**
Trade name: **PHOENIX CONTACT**
Types/models: **URTK/S-BEN BU, URTK/S-BEN, URTK/S, URTK/SP, USLKG 10, USLKG 3N**

The product and any documents relating thereto is specified in the Annex to this certificate and the documents therein referred to.

KEMA hereby declares that the above-mentioned product has been certified on the basis of:

- a type test approval to the standards EN 60947-1:1991, EN 60947-7-2:1995
- an inspection of the production process according to CCA Group Certification Agreement 0047/94
- a certification agreement with the number 900469

KEMA hereby grants the right to use the certification mark

The KEMA certification mark may be used on the product as specified in this certificate for the duration of the KEMA-KEUR certification agreement and under the conditions of the KEMA-KEUR certification agreement.

This certificate is issued on: August 6, 1999

На основание чл. 2
от ЗЗЛД



683

SPECIFICATION OF THE CERTIFIED PRODUCT

Product data

product : terminal blocks
 trade name : PHOENIX CONTACT
 types : URTK/S-BEN BU, URTK/S-BEN, URTK/S,
 URTK/SP, USLKG 10, USLKG 6N
 material : thermoplastic material
 mounting : top hat rail 35 mm (EN 50022) and G-profile
 rail 32 mm (EN 50035)

Additional information

Markings

Trademark, type designation, rated connection capacity and rated insulation voltage are indented in the insulation material.

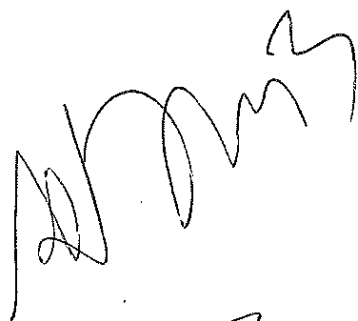
Product data – type USLKG 6N


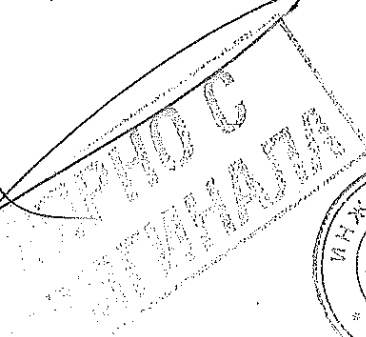

rated connection capacity : 6 mm²
 connectable conductors : one conductor
 0,2 - 10 mm² solid
 0,2 - 6 mm² flexible without ferrule
 0,25 - 6 mm² flexible with ferrule
 two conductors
 0,2 - 2,5 mm² solid
 0,2 - 2,5 mm² flexible without ferrule
 0,25 - 1,5 mm² flexible with ferrule
 description : protective conductor terminal block with 2
 screw-type clamping units, 1-pole

Product data – type URTK/S

rated voltage : 400 V
 rated connection capacity : 6 mm²
 connectable conductors : one conductor
 0,5 - 10 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 10 mm² flexible with ferrule
 two conductors
 0,5 - 2,5 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 4 mm² flexible with ferrule
 rated impulse withstand voltage : 6 kV
 description : disconnect terminal block with 2 screw-type
 clamping units, 1-pole

N.V. KEMA
 Utrechtseweg 310, 6812 AR Arnhem, The Netherlands
 P.O. Box 9036, 6800 ET ARNHEM, The Netherlands
 Telephone +31 26 3562850, Telefax +31 26 3514922




 684





ANNEX TO KEMA-KEUR CERTIFICATE 97.4117.13

Product data – type USLKG 10

rated connection capacity : 6 mm²
 connectable conductors : one conductor
 0,5 - 10 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 6 mm² flexible with ferrule
 two conductors
 0,5 - 2,5 mm² solid
 0,5 - 2,5 mm² flexible without ferrule
 0,5 - 2,5 mm² flexible with ferrule
 description : protective conductor terminal block with 2
 screw-type clamping units, 1-pole

Product data – type URTK/S-BEN

rated voltage : 500 V
 rated connection capacity : 6 mm²
 connectable conductors : one conductor
 0,5 - 10 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 10 mm² flexible with ferrule
 two conductors
 0,5 - 2,5 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 4 mm² flexible with ferrule
 rated impulse withstand voltage : 6 kV
 description : disconnect terminal block with 2 screw-type
 clamping units, 1-pole

Product data – type URTK/S-BEN BU

rated voltage : 500 V
 rated connection capacity : 6 mm²
 connectable conductors : one conductor
 0,5 - 10 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 10 mm² flexible with ferrule
 two conductors
 0,5 - 2,5 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 4 mm² flexible with ferrule
 rated impulse withstand voltage : 6 kV
 description : disconnect terminal block with 2 screw-type
 clamping units, 1-pole

N.V. KEMA
 Utrechtseweg 310, 6812 AR Arnhem, The Netherlands
 P.O. Box 9035, 6800 ET ARNHEM, The Netherlands
 Telephone +31 26 3562850, Telefax +31 26 3514922

[Handwritten signature]

[Large handwritten signature]



685

ANNEX TO KEMA-KEUR CERTIFICATE 97.4117.13

Product data – type URTK/SP

rated voltage : 500 V
 rated connection capacity : 6 mm²
 connectable conductors : one conductor
 0,5 - 10 mm² solid
 0,5 - 6 mm² flexible without ferrule
 0,5 - 6 mm² flexible with ferrule
 two conductors
 0,5 - 2,5 mm² solid
 0,5 - 4 mm² flexible without ferrule
 0,5 - 2,5 mm² flexible with ferrule

rated impulse withstand voltage : 6 kV
 description : disconnect terminal block with 2 screw-type
 clamping units, 1-pole

TESTS

Test requirements

EN 60947-7-1:1991 + C:1997-06 + A11:1997
 EN 60947-7-2:1995 + C:1996-01

Test results

The test results are laid down in KEMA test file 97.4117.13.

Conclusion

The examination proved that all test requirements were met.

Tested by

Checked by

На основании чл. 2
от ЗЗЛД

FACTORY-LOCATION(S)

Phoenix Contact GmbH & Co.
 Flachsmarktstrasse 8-28, BLOMBERG, Germany

N.V. KEMA
 Utrechtseweg 310, 6812 AR Arnhem, The Netherlands
 P.O. Box 9035, 6800 ET ARNHEM, The Netherlands
 Telephone +31 26 3562850, Telefax +31 26 3514922

[Handwritten signature]

[Handwritten signature]



686

DEVICE UNDER TEST Fuse holder *FB01B types*
MANUFACTURER..... Lovato Electric S.p.A.

TYPE OF TEST..... Temperature rise test on FB01B fuse holders

DATE OF DEVICE RECEIPT..... 27/04/2011
START / END TESTING 29/04/2011 – 13/05/2011

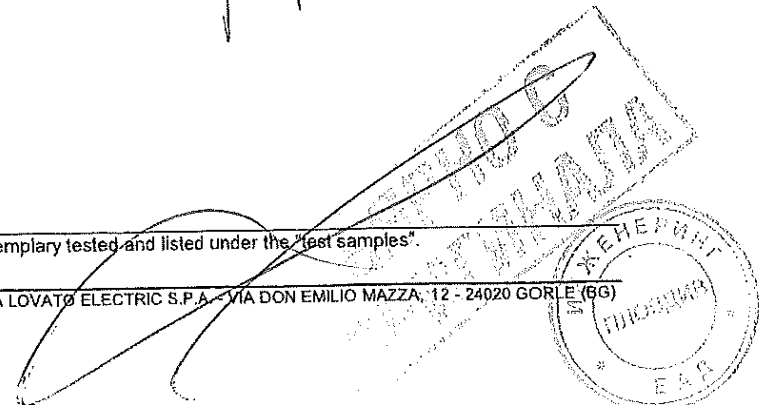
SAMPLES STORING..... Eliminated / returned to customer Storage :

INDEX

1. PURPOSE OF TESTING.....	2
2. TEST SAMPLES.....	2
3. TEST METHOD.....	2
4. TEST PROCEDURES.....	2
5. TEST RESULTS	3
6. TEST EQUIPMENT	5
7. REMARKS & ANALYS.....	5
8. ANNEX.....	6

ISSUE 16/05/2011
COMPILED STAFF LPR
APPROVED RESP. LPR

The test results are related only to the exemplary tested and listed under the "test samples".



687

1. PURPOSE OF TESTING

Requested test (according to the customer specification):
Temperature rise at 690V – 32A on FB01B fuse holders

Test purpose:
"Verify the good function of FB01B fuse holders."

Test target:
Pass the test.

2. TEST SAMPLES

- N. 1 FB01B1P fuse holder - 32A (10 x 38 mm), batch production number ...¹
- N. 1 FB01B2P fuse holder - 32A (10 x 38 mm), batch production number ...¹
- N. 1 FB01B3P fuse holder - 32A (10 X 38 mm), batch production number ...¹

3. TEST METHOD

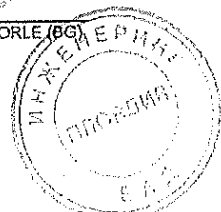
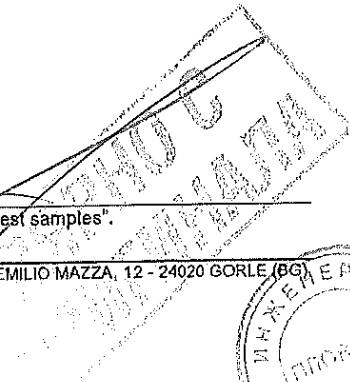
IEC 60947-3 (2008-08) Ed. 3.0 + IEC 60947-1 Ed. 5.1 (2011-03)
Temperature rise (§ 8.3.3.1)

4. TEST PROCEDURES

Temperature rise..... Test instruction LPR 051-1, rev. 4, dated 11/10/2010.

¹ not available
¹ not available
¹ not available

The test results are related only to the exemplary tested and listed under the "test samples".



688

5. TEST RESULTS

5.1 TEMPERATURE RISE

5.1.1 WITH LEGRAND FUSE 32 A gG 400 V

Sample under testN. 1 FB01B1P - 32A
N. 1 FB01B2P - 32A
N. 1 FB01B3P - 32A

Test conditions

Ambient temperature.....21 °C
Relative humidity.....46 %
Installation.....in vertical way, on DIN RAIL 35mm

Data sheet fusible used:

- SupplierLegrand
- Codecod. 133 32

Test parameters


Wiring of the main circuit
- cables section / length6,0 mm² / 1,0 m
- screws tightening nominal torque2,0 + 2,5 N.m
- screws applied tightening torque2,0 N.m

Supply of the main circuit

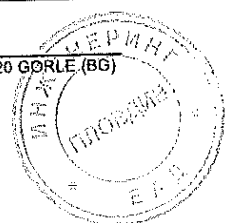
- rated current.....I_{th} = 25 - 32 A
- test current.....I = 32 A
- supply frequency.....50 Hz

Test results

See next page.



The test results are related only to the exemplary tested and listed under the "test samples".



Temperature rise main circuit

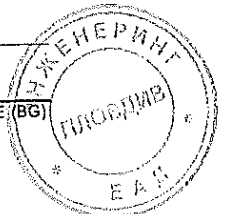
	[K]			Standard limit EN60947-1 tab. 2
	One pole fuse holder FB01B1P	2 pole fuse holder FB01B2P	3 pole fuse holder FB01B3P	
Terminal L1	43	54	57	65
Terminal T1	39	51	52	65
Terminal L2	-	55	61	65
Terminal T2	-	49	58	65
Terminal L3	-	-	57	65
Terminal T3	-	-	50	65
Note	Silver plated-brass terminal			

Temperature rise for accessible parts

	[K]			Standard limit EN60947-1 tab. 3
	One pole fuse holder FB01B1P	2 pole fuse holder FB01B2P	3 pole fuse holder FB01B3P	
Line side	14	24	29	40
Load side	10	19	21	40
Left side	24	30	32	40
Right side	22	30	31	40
On front	18	24	29	40
Lever	9	16	17	40

[Handwritten signature]

The test results are related only to the exemplary tested and listed under the "test samples".





6. TEST EQUIPMENT AND INSTRUMENTS

6.1. TEST EQUIPMENT

Description	Used for	Full scale	Code
Current supply station	Power supply main circuit	20V – 50A	LPRA 065

6.2. MEASURING INSTRUMENTS

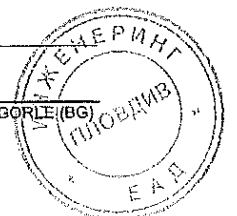
Description	Used to measure	Full scale	Code	Calibration expiration date
Thermohygrometer	Ambient temperature	-5 + 50 °C	LPR 165	27/10/2011
Thermohygrometer	Relative humidity	10 + 90%	LPR 165	27/10/2011
Termometric instrument	Temperature rise	-30 + +200 °C	LPR 201	10/01/2012
Termocouple T type	Temperature rise	-30 + +200 °C	LPR 201	10/01/2012
Termocouple T type	Temperature rise	-30 + +200 °C	LPR 201.13	10/01/2012
Current transformer	Main circuit current	1.004/50 A	LPR 155	11/05/2014
Digital multimeter	Main circuit current	10 A	LPR 55	11/05/2012
Digital multimeter	Drop voltage	mV - Autom.	LPR 125	11/05/2012
Dynamometric screw driver	Main terminal screw tightening	6,0 Nm	LPR 231	07/01/2012

7. REMARKS & ANALYS

Temperature rise test 690V – 32A: test passed



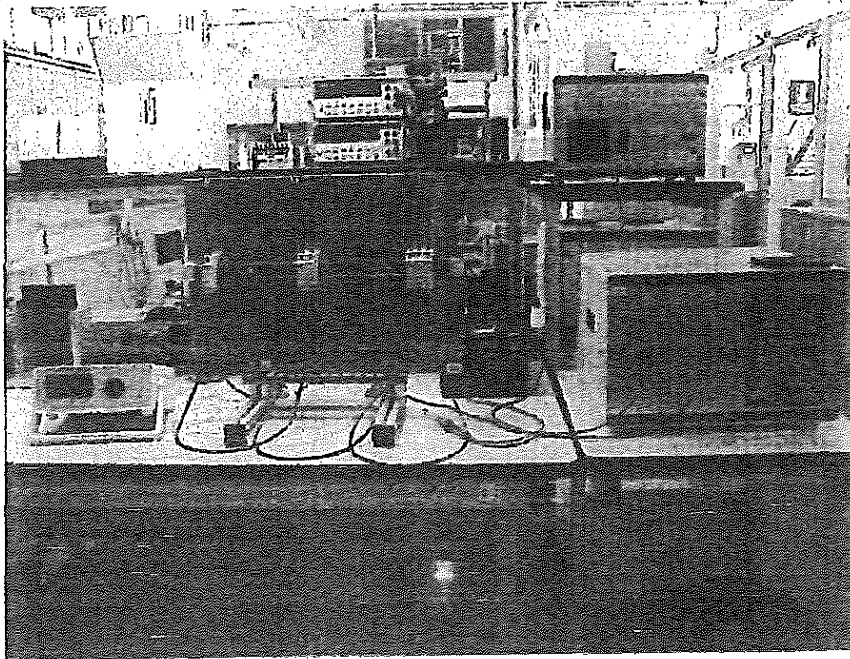
The test results are related only to the exemplary tested and listed under the "test samples"



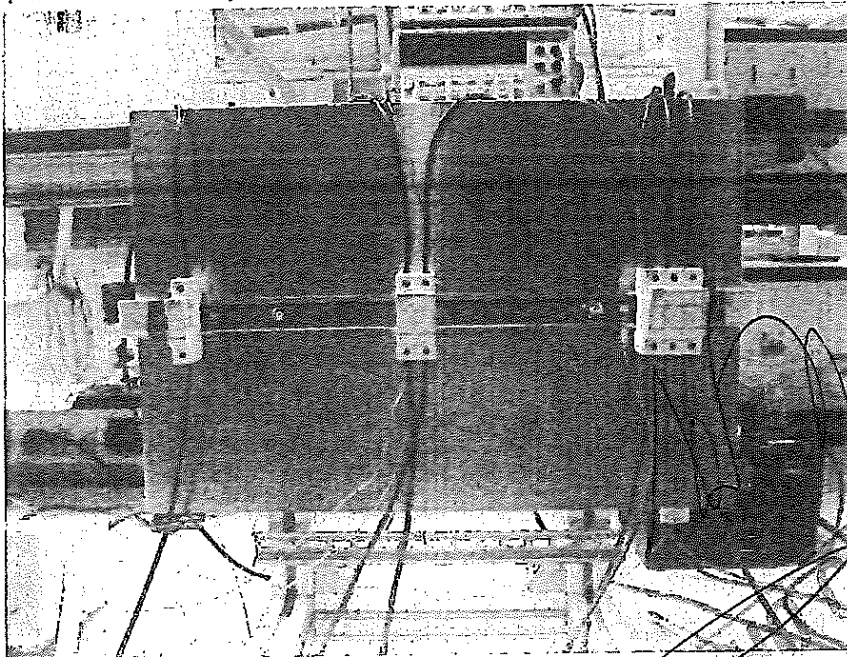
[Handwritten signature]

8. ANNEX

Picture 1: Temperature rise – test setup

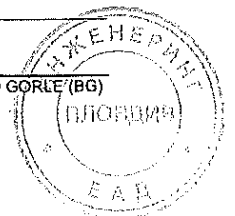


Picture 1a: Temperature rise – test setup



[Handwritten signature]

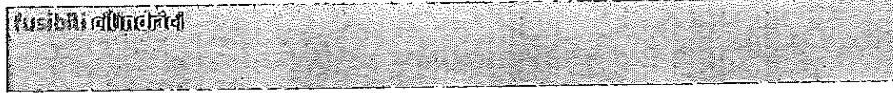
The test results are related only to the exemplary tested and listed under the "test samples".



[Handwritten signature]

092

Picture 2: Catalogue Legrand fuses



Informazioni tecniche, curve e quote (p. 122)

8,5 x 23 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0113 02	0114 02 (1)	2	250
10	0113 04	0114 04 (1)	4	
10	0113 06	0114 06 (1)	6	
100	0113 10	0114 10	10	

8,5 x 31,5 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0123 01		1	
10	0123 02	0124 02	2	
10	0123 04	0124 04	4	
10	0123 06	0124 06	6	400
10	0123 08		8	
10	0123 10	0124 10	10	20
10	0123 12		12	
100	0123 16	0124 16	16	
100	0123 20	0124 20	20	

10,3 x 38 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0133 04		0,5	
10	0133 01		1	
10	0133 02	0134 02	2	
10	0133 04	0134 04	4	
10	0133 06	0134 06	6	500
10	0133 08	0134 08	8	
10	0133 10	0134 10	10	
10	0133 12	0134 12	12	
10	0133 16	0134 16	16	
10	0133 20	0134 20	20	
10	0133 25	0134 25	25	

14 x 51 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0143 02		2	
10	0143 04	0145 04	4	
10	0143 06	0145 06	6	
10	0143 10	0145 10	10	
10	0143 16	0145 16	16	500
10	0143 20	0145 20	20	
10	0143 25	0145 25	25	
10	0143 32	0145 32	32	
10	0143 40	0145 40	40	400
10	0143 50	0145 50	50	

22 x 58 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0153 10	0155 10	10	
10	0153 16	0155 16	16	
10	0153 20	0155 20	20	
10	0153 25	0155 25	25	500
10	0153 32	0155 32	32	
10	0153 40	0155 40	40	
10	0153 50	0155 50	50	
10	0153 63	0155 63	63	
10	0153 80	0155 80	80	400
10	0153 98	0155 98	100	
10	0153 97	0155 97	125	

8,5 x 31,5 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0120 01		1	
10	0120 02		2	
10	0120 04		4	
10	0120 06		6	400
10	0120 08		8	
10	0120 10		10	20

10,3 x 38 mm

Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0130 02		0,25	
10	0130 05		0,50	
10	0130 01		1	
10	0130 02		2	
10	0130 04		4	
10	0130 06		6	500
10	0130 08		8	
10	0130 10		10	100
10	0130 12		12	
10	0130 16		16	
10	0130 20		20	400
10	0130 25		25	400

14 x 51 mm

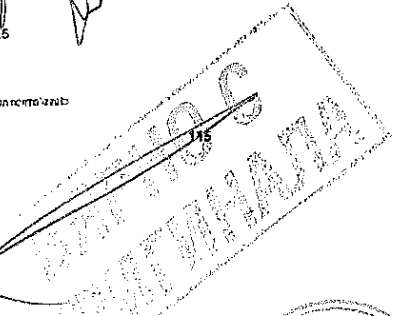
Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0140 02	0141 02	2	
10	0140 04	0141 04	4	
10	0140 06	0141 06	6	
10	0140 08	0141 08	8	
10	0140 10	0141 10	10	
10	0140 12	0141 12	12	500
10	0140 16	0141 16	16	
10	0140 20	0141 20	20	100
10	0140 25	0141 25	25	
10	0140 32	0141 32	32	
10	0140 40	0141 40	40	
10	0140 45	0141 45	45	400
10	0140 50		50	

22 x 58 mm

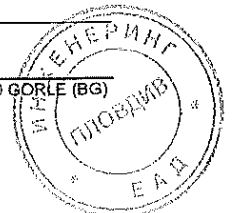
Series	Code	Nominal (A)	Temperature (°C)	Power (KA)
10	0150 16	0151 16	16	
10	0150 20	0151 20	20	
10	0150 25	0151 25	25	
10	0150 32	0151 32	32	500
10	0150 40	0151 40	40	
10	0150 50	0151 50	50	100
10	0150 63	0151 63	63	
10	0150 80	0151 80	80	
10	0150 98	0151 98	100	
10	0150 97	0151 97	125	400

Neutri

0123 00 8,5 x 31,5
0133 00 10,3 x 38
0143 00 14 x 51
0153 00 22 x 58



The test results are related only to the exemplary tested and listed under the "test samples"



693

Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

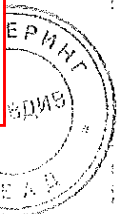
This annex is valid from: 30-03-2010 to 01-03-2014

Replaces annex dated: 30-06-2009

Premises: n.a.

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
LF 0 0	DC/LF Quantities			
LF 1 0	DC Voltage			
	Standard cells		3 μ V	
	Up to 1 mV		0,4 μ V	
	1 mV to 10 mV		$3 \cdot 10^{-4} \cdot U$	
	10 mV to 100 mV		$3 \cdot 10^{-5} \cdot U$	
	100 mV to 10 V		$5 \cdot 10^{-6} \cdot U$	
	10 V to 100 V		$1 \cdot 10^{-5} \cdot U$	
	100 V to 1100 V		$2 \cdot 10^{-5} \cdot U$	
	Zener Reference Standards			
	1 V and 1,018 V		3 μ V	
	10 V		20 μ V	
	High Voltage			Measuring
	1 kV to 6 kV		$2 \cdot 10^{-3} \cdot U$	
LF 2 0	DC Current			
	10 μ A to 3 A		$2 \cdot 10^{-5} \cdot I$	
	3 A to 10 A		$2,5 \cdot 10^{-5} \cdot I$	
	10 A to 20 A		$6 \cdot 10^{-5} \cdot I$	

На основании чл. 2
от ЗЗЛД



Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

This annex is valid from: **30-03-2010 to 01-03-2014**

Replaces annex dated: **30-06-2009**

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
LF 3 1	20 A to 100 A		$1 \cdot 10^{-4} \cdot I$	
	AC Voltage			
	60 mV to 1000 V	40 Hz to 20 kHz	$2 \cdot 10^{-4} \cdot U$	
	60 mV to 1000 V	20 kHz to 50 kHz	$3 \cdot 10^{-4} \cdot U$	
	60 mV to 220 V	20 kHz to 50 kHz 50 kHz to 100 kHz	$4 \cdot 10^{-4} \cdot U$	
	220 V to 1000 V	50 kHz to 100 kHz	$4 \cdot 10^{-4} \cdot U$	
LF 3 2	220 V to 1000 V	50 kHz to 100 kHz	$2 \cdot 10^{-3} \cdot U$	
	High Voltage 1 kV tot 6 kV	50 Hz	$2 \cdot 10^{-3} \cdot U$	Measuring
	AC Voltage Ratio (instrument transformers) Primary: (10-600)V Secondary: (0,1-240)V	50 Hz and 60 Hz	$3 \cdot 10^{-5} \cdot U_{\text{ult}}/U_{\text{in}}$ and $90 \mu\text{rad}$	
LF 3 3	AC Current			
	0,1 mA to 300 mA	40 Hz to 5 kHz	$3 \cdot 10^{-4} \cdot I$	
	300 mA to 20 A 20 A to 50 A	40 Hz to 1 kHz 40 Hz to 1 kHz	$3 \cdot 10^{-4} \cdot I$ $6 \cdot 10^{-4} \cdot I$	
LF 4 2	AC Current Ratio (instrument transformers)	50 Hz and 60 Hz	$3 \cdot 10^{-5} \cdot I_{\text{ult}}/I_{\text{in}}$ and $90 \mu\text{rad}$	Measuring

ambient temp
(23 ± 2) °C

695

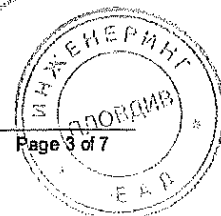
Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

This annex is valid from: 30-03-2010 to 01-03-2014

Replaces annex dated: 30-06-2009

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
	Primary: 5 A to 6000 A Secondary: 1A or 5A			
LF 4 3	High Current 10 A to 6000 A	50 Hz, 60 Hz	$3 \cdot 10^{-4} \cdot I$	
LF 5 0	Power and Energy Power 0,1 μ W to 1 μ W 1 μ W to 1 kW 1 kW tot 10 kW 10 kW tot 110 kW 3 W to 57,6 kW	50 Hz and 60 Hz	$1 \cdot 10^{-4} \cdot P$ $5 \cdot 10^{-5} \cdot P$ $1 \cdot 10^{-4} \cdot P$ $2 \cdot 10^{-4} \cdot P$ $\frac{3 \cdot 10^{-4}}{\cos \varphi} \cdot P$	10 mV to 1100 V, 10 μ A to 100 A on site to be performed at ambient temperature; voltage and current as mentioned above
	3 W to 2,9 MW	50 Hz and 60 Hz	$\frac{2 \cdot 10^{-4}}{\cos \varphi} \cdot P$	measuring 20 V to 1100 V 100 mA to 6000A $\cos \varphi = 0$ to 1
	Reactive Power (P_r) 6 var to 1,8 Mvar	50 Hz and 60 Hz	$\frac{5 \cdot 10^{-4}}{\sin \varphi} \cdot P_r$	60 V to 300 V 100 mA to 6000 A
	Electrical (reactive-) energy			see (reactive-) power and time
LF 5 1	Power Factor $\cos \varphi : 0$ to 1	40 Hz to 100 Hz	$\frac{2 \cdot 10^{-3}}{\cos \varphi} \cdot PF$	



696

Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

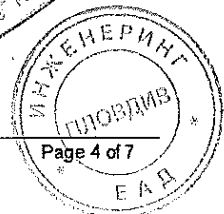
of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

This annex is valid from: 30-03-2010 to 01-03-2014

Replaces annex dated: 30-06-2009

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
LF 6	Impedance (DC/LF)			
LF 6 2	DC Resistance			Non-decadic values
	20 $\mu\Omega$ to 50 $\mu\Omega$		$3 \cdot 10^{-4} \cdot R$	
	50 $\mu\Omega$ to 100 $\mu\Omega$		$1 \cdot 10^{-4} \cdot R$	
	100 $\mu\Omega$ to 20 k Ω		$1,2 \cdot 10^{-5} \cdot R$	
	1 m Ω to 10 m Ω		$6,5 \cdot 10^{-6} \cdot R$	
	10 m Ω to 1000 m Ω		$7 \cdot 10^{-6} \cdot R$	
	1 Ω to 10 k Ω		$5 \cdot 10^{-6} \cdot R$	
	10 k Ω to 1 M Ω		$1 \cdot 10^{-5} \cdot R$	
	1 M Ω to 10 M Ω		$1,2 \cdot 10^{-5} \cdot R$	
	10 M Ω to 100 M Ω		$3 \cdot 10^{-5} \cdot R$	
	100 $\mu\Omega$ to 10 k Ω		$6 \cdot 10^{-6} \cdot R$	Decadic Values
LF 6 4	Capacitance			
	LF Capacitance			accuracy depends on dissipation factor at 1 kHz
	10 pF to 100 pF	100 Hz, 1 kHz, 10 kHz	$1 \cdot 10^{-3} \cdot C$	
	1 μ F	50 Hz, 200 Hz, 1 kHz	$1 \cdot 10^{-3} \cdot C$	
LF 6 7	Inductance			
	1 mH to 10 mH	1 kHz, (400-1692)Hz	$1 \cdot 10^{-3} \cdot L$	
	100 mH	100 Hz, 1 kHz, 1,592 kHz	$1 \cdot 10^{-3} \cdot L$	
	1 H	100 Hz, 200 Hz, 400 Hz and 1 kHz	$1 \cdot 10^{-3} \cdot L$	
RF 0 0	RF Quantities			
RF 3 0	RF Power			
	- 9 dBm to +30 dBm	0,1 MHz to 4200 MHz	0,5 dB	Measuring:
	+30 dBm to +57 dBm	0,1 MHz to 500 MHz	0,6 dB	50 ohm coaxial VSWR
	-60 dBm to -10 dBm	10 MHz to 10000 MHz	0,5 dB	

697



Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

This annex is valid from: **30-03-2010 to 01-03-2014**

Replaces annex dated: **30-06-2009**

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
	-80 dBm to -10 dBm	0,1 MHz to 2700 MHz	1,1 dB	source < 2 Generating: (0,09 - 3200) MHz
RF 50	Rise time (10% to 90%) 1 ns to 1 ms		$2 \cdot 10^{-2} \cdot \tau + 200$ ps	10 mV/div to 1 kV/div
TF 00	TIME and FREQUENCY			
TF 2 1	Frequency	1 Hz to 1,2 GHz	$5 \cdot 10^{-10} \cdot f$	
TF 2 2	Time interval	1 μ s to ∞	$5 \cdot 10^{-10} \cdot t + 100$ ns	
TF 3 2	Harmonic Distortion			(1)
	< 0,1 %	20 Hz to 2,5 kHz	$3 \cdot 10^{-4}$	
	0,1 % to 1 %	20 Hz to 2,5 kHz	$1 \cdot 10^{-3}$	
	1 % to 10 %	20 Hz to 2,5 kHz	$3 \cdot 10^{-3}$	
	10 % to 30 %	20 Hz to 2,5 kHz	$1 \cdot 10^{-2}$	
	30 % to 100 %	20 Hz to 2,5 kHz	$3 \cdot 10^{-2}$	

Part II, Mechanical quantities and Temperature

Measured quantity, Instrument, Gauge	Range	Best measurement capabilities ($k=2$)	Remarks
PV 10 Pressure Relative Pressure	(-10 to 10) kPa (-98 to 100) kPa 100 kPa to 10 MPa (10 to 70) MPa	$3 \cdot 10^{-4} \cdot p_e + 4$ Pa $3 \cdot 10^{-4} \cdot p_e + 5$ Pa $3 \cdot 10^{-4} \cdot p_e$ $3 \cdot 10^{-4} \cdot p_e$	(2) medium: air medium: nitrogen medium: nitrogen medium: oil



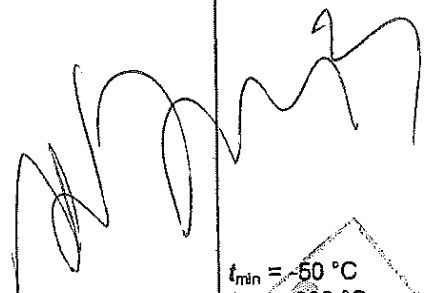
698

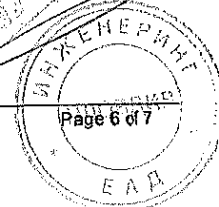
Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

This annex is valid from: **30-03-2010 to 01-03-2014**

Replaces annex dated: **30-06-2009**

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
	Absolute Pressure	(80 to 110) kPa (2 to 200) kPa 200 kPa to 10 MPa (10 to 70) MPa	$3 \cdot 10^{-4} \cdot p$ $3 \cdot 10^{-4} \cdot p + 5 \text{ Pa}$ $3 \cdot 10^{-4} \cdot p$ $3 \cdot 10^{-4} \cdot p$	medium: air medium: nitrogen medium: nitrogen medium: oil
TE 00	TEMPERATURE, HUMIDITY AND THERMOPHYSICAL PROPERTIES			
TE 10	Resistance thermometers	-50 °C to 20 °C 20 °C to 50 °C 50 °C to 300 °C 300 °C to 550 °C 550 °C to 650 °C	0,02 K 0,05 K 0,05 K 0,16 K 0,50 K	
TE 30	Thermocouples	-50 °C to 20 °C 20 °C to 50 °C 50 °C to 300 °C 300 °C to 550 °C 550 °C to 650 °C 650 °C to 1000 °C	0,16 K 0,16 K 0,16 K 0,21 K 0,6 K 1,6 K	Including C.J. references
TE 40	Liquid-in-glass thermometers	-50 °C to 50 °C 20 °C to 50 °C 50 °C to 300 °C	0,02 K 0,04 K 0,02 K	 $t_{\min} = -50 \text{ °C}$ $t_{\max} = 200 \text{ °C}$
	Differential Temperature	-50 °C to 200 °C	0,05 K	
TE 41	Self indicating thermometers			



Annex to ISO/IEC 17025 declaration of accreditation
for registration number: K 006

of **KEMA Nederland B.V.**
Calibration & Metering
Arnhem

This annex is valid from: **30-03-2010 to 01-03-2014**

Replaces annex dated: **30-06-2009**

HCS code	Measured quantity, Range	Frequency	Best measurement capabilities ($k=2$)	Remarks
	Dry Block Calibrators	-20 °C to 650 °C	$(8 \cdot 10^{-4} \cdot t_{90} + 0,06) \text{ K}$	
	Writing thermometers	15 °C to 50 °C	0,5 K	including C.J. references resolution 1 digit
	Digital thermometers	-50 °C to 20 °C	0,02 K	
		20 °C to 50 °C	0,05 K	
		50 °C to 300 °C	0,05 K	
		300 °C to 550 °C	0,16 K	
		550 °C to 630 °C	0,50 K	
		630 °C to 1000 °C	1,5 K	

Remarks:

The ambient temperature during calibration is, unless specified otherwise, for:

- LF measurements @ $(23 \pm 1)^\circ\text{C}$
- TF measurements @ $(23 \pm 1)^\circ\text{C}$
- Pressure measurements @ $(23 \pm 2)^\circ\text{C}$
- Temperature measurements @ $(23 \pm 2)^\circ\text{C}$

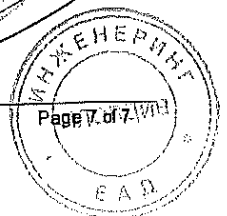
(1) The stated best measurement capabilities are based on the fundamental frequency of the input signal. If desired the distortion can be specified as a rang number of the harmonics.

(2) $p_r = p - p_{amb}$; p_r is the relative pressure, p_{amb} is the local air pressure, p is the absolute pressure.

The best measurement capability is the highest achievable accuracy for a given measuring value or measuring range, expressed as the total positive and negative measurement uncertainty.

The uncertainty is calculated according to EA-4/02 "Expression of the Uncertainty of Measurement in Calibration".

Calibrations are performed inside the laboratory, unless specified otherwise.





EA MLA Signatory
Český institut pro akreditaci, o.p.s.
Ošňanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 421 / 2016

Zkušebnictví, a.s.
with registered office Podnikatelská 547, 190 11 Praha 9 - Běchovice, Company Registration
No. 45274355

to the Testing Laboratory No. 1035
KEMA Laboratories Prague

Scope of accreditation:

Testing of making and breaking capacity, testing of short-circuit resistance, testing of electric arc resistance, temperature-rise tests by continuous flow of electric current, dielectric tests, determination of degree of protection, verification of equipment design and routine tests of heavy current equipment to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

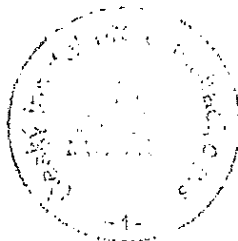
ČSN EN ISO/IEC 17025:2005

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 743/2015 of 02 November 2015, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: 15 July 2021

Prague: 15 July 2016



На основании чл. 2
от ЗЗЛД

709

Инструкция за транспорт, съхранение, монтаж и експлоатация
на клемореди за вторични вериги за измервателни групи на ниво средно напрежение

1. Транспорт

Клеморедите трябва да се транспортират опаковани в оригиналната опаковка.

Няма специфични изисквания към начина на транспорт.

2. Съхранение

Клемите и аксесоарите към тях трябва да се съхраняват в сухи, закрити помещения опаковани в оригиналната опаковка.

Температура на съхранение: от -25 до +55 °С.

Няма специфични изисквания към начина на съхранение.

3. Монтаж и експлоатация

Монтажа и експлоатационната поддръжка на клеморедата е необходимо да се извърва от правоспособен ел.монтажор с минимум III та квалификационна група.

Необходимо е да се спазват следните изисквания.

Да се използва изолирана отверка от т.н тип Philips с дебелина 1мм и широчина 4мм

Да не се прави опит да се монтира проводник, ако клемата не е отворена достатъчно

Да не се прави опит да се монтира проводник с по-голямо сечение от 6мм², същия трябва да бъде с отстранена изолация 13мм

Да не се прилагат ток и напрежение по-големи от указаните.

Да се спазват въртящите моменти за затягане на жилата от минимум 1,2Nm и максимум 1,5Nm.

Периодично (веднъж месечно) да се прави проверка за замърсяване и ако е необходимо, клеморедата да се почисти, като се спазват инструкциите за безопасна работа.

Клеморедата да не се мокри или подлага на атака от химически реагенти.

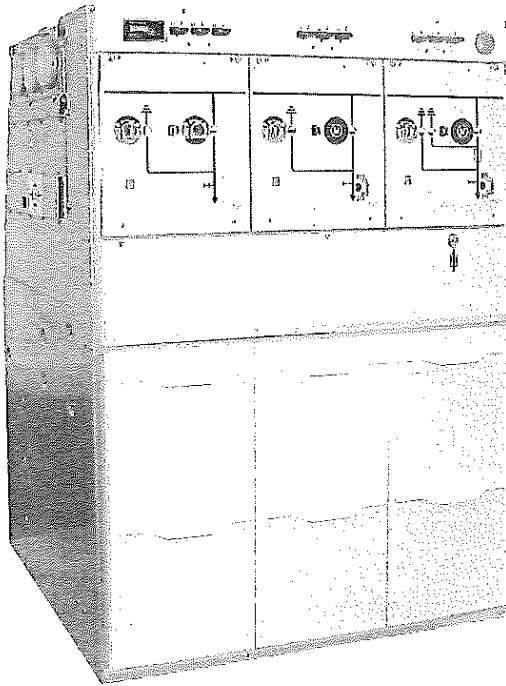
Да не се прилагат механични удари

ВЧВ ИЗОМАТИК ООД
ИНЖЕНЕР
ПЛАВЕН
Е 4 9



FBX

Gas insulated switchgear up to 24 kV



ВЯРНО С ОРИГИНАЛА

Schneider
Electric

