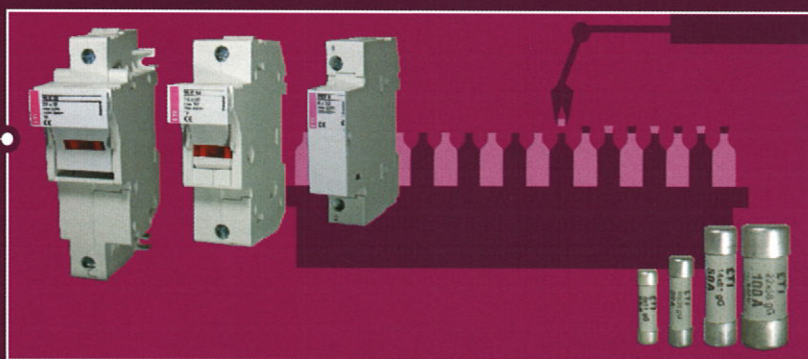


## INDUSTRIAL INSTALLATIONS

High-quality protection of installations and devices in industry is ensured by wide selection of fuse-links and circuit breakers. Particularly important is the wide range of NV/NH fuse-links and switchgear combinations, i.e. fuse blocks and switch disconnectors. We also offer MCB's and power circuit breakers ETIBREAK. And not to forget ETICON contactors, plug-in outfit and line-up terminals SPOJ and overvoltage protection devices ETITEC. As well we can not provide solutions without switch disconnectors ETISWITCH and actuators and indicators ETISIG. The products are internationally certified and carry several quality marks.



# INDUSTRY

# NEW Fuse-switch disconnecter

## Advantages of cylindrical fuse-switch disconnecter EFD

→ Compliance with IEC 60947-1, IEC 60947-3, UL 4248-1, UL 4248-4, UL 4248-8 and UL 486E



→ Mounting on standard DIN 35 mm rail (DIN EN60715). The sizes 22x58 can be also fixed with screws on a flat base

→ More space for finger to open fuse carrier



→ All contact surfaces are silver plated



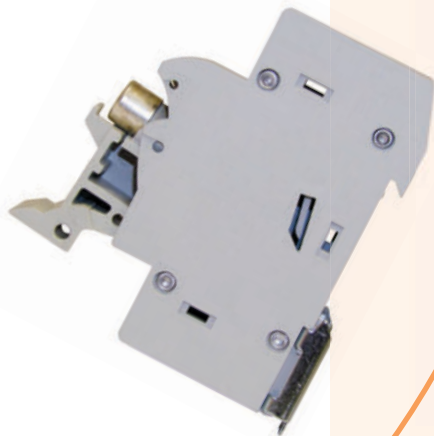
→ Complete protection against touch according to IP20

→ Changing of a fuse-link without danger of direct touch of parts under voltage



→ Possibility of sealing in ON or OFF positions

→ All plastic parts are made of material resistant to extremely high temperatures. Fuse carrier assures that a fuse link is not in touch with a housing



→ For all sizes a **version with electronic indicator** is available. There are two technical types of indicator:

- **L (LED)** with built-in LED diode which blinks after the fuse-link operates. The indicator is capable of operating in conditions of open circuit with minimum capacitance between connection cables. Operating voltage range from 50V to 690V.

- **I (NEON)** with neon lamp which is constantly lit after the fuse-link operates. The operational voltage range from 100V to 750V a.c.

→ Modular design – it is possible to assemble multi-pole versions at the building site for EFD 8, EFD 10, EFD 14 and EFD 22



## Fuse-switch disconnectors for cylindrical fuse-links

### Fuse-switch disconnecter EFD 8

Rated current <b>max. 20 A</b>	Rated operational voltage <b>400 V</b>	Utilization category <b>AC22B</b>	For fuse-links size <b>8x32</b>
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1-pole						
$U_e/U_i$ [V]	$I_{max}$ [A]	Code No.	Indica- tor	Adapter	Weight [g]	Packaging [pcs]
400	20	002520001	-		63	12/108
		002520011	L-LED		64	
		002520021	I-NEON		64	
		002520301	-	✓	68	
		002520311	L-LED	✓	69	
		002520321	I-NEON	✓	69	

1-pole + N						
$U_e/U_i$ [V]	$I_{max}$ [A]	Code No.	Indica- tor	Adapter	Weight [g]	Packaging [pcs]
400	20	002520002	-		128	6/54
		002520012	L-LED		129	
		002520022	I-NEON		129	
		002520302	-	✓	138	
		002520312	L-LED	✓	139	
		002520322	I-NEON	✓	139	
		*002520007	-		128	
		*002520017	L-LED		129	
		*002520027	I-NEON		129	
		*002520307	-	✓	138	
		*002520317	L-LED	✓	139	
		*002520327	I-NEON	✓	139	

\*N pole on left "French version"

2-pole						
$U_e/U_i$ [V]	$I_{max}$ [A]	Code No.	Indica- tor	Adapter	Weight [g]	Packaging [pcs]
400	20	002520003	-		123	6/54
		002520013	L-LED		125	
		002520023	I-NEON		125	
		002520303	-	✓	134	
		002520313	L-LED	✓	135	
		002520323	I-NEON	✓	135	

3-pole						
$U_e/U_i$ [V]	$I_{max}$ [A]	Code No.	Indica- tor	Adapter	Weight [g]	Packaging [pcs]
400	20	002520004	-		184	4/36
		002520014	L-LED		186	
		002520024	I-NEON		186	
		002520304	-	✓	200	
		002520314	L-LED	✓	201	
		002520324	I-NEON	✓	201	



## Fuse-switch disconnectors for cylindrical fuse-links EFD

## Technical data EFD

	EFD 8		EFD 10		EFD CC		EFD 14		EFD 22		EFD J30	
Fuse type	CH 8x32		CH 10x38		Class CC		CH 14x51		CH 22x58		Class J, size J30	
	IEC		IEC		UL		UL		IEC		UL	
Versions	Without indicator/LED indicator/NEON indicator		Without indicator / LED indicator									
Number of poles	1p, 1p+N, 2p, 3p, 3p+N		1p, 2p, 3p		1p, 1p+N, 2p, 3p, 3p+N		1p, 2p, 3p		1p, 1p+N, 2p, 3p, 3p+N		1p, 2p, 3p	
Rated operational voltage Ue	400V a.c.		690V a.c.		600V a.c./d.c.		600V a.c./d.c.		690V a.c.		600V a.c./d.c.	
Rated operational current Ie	20A		32A		30A		30A		50A		50A	
Maximum rated current of fuselinks	690V		10A gG						25A gG 25A aM		50A gG 50A aM	
	500V		25A gG 16A aM						50A gG		100A gG	
	400V		20A gG 10A aM						50A aM		100A aM	
Rated frequency	50Hz		50Hz		60Hz		60Hz		50Hz		60Hz	
Rated short-time withstand current Icw	240A		300A/1s						600A/1s		1200A/1s	
Conventional free air thermal current Ith									50A		100A	
Rated conditional short-circuit current	50kA		100kA/400V		100kA		200kA		gG: 120kA/500V (50A gG) aM: 50kA/400V (50A aM)		100kA	
									100kA		gG: 120kA/500V (100A gG) aM: 50kA/400V (100A aM)	
Rated insulation voltage Ui	400V		690V						690V		690V	
Rated imp. withstand voltage Uimp	8kV		8kV						8kV		8kV	
Overvoltage category (according to Table H.1 in IEC 60947-1 and according to IEC 60099-1)	III		III						III		III	
Max power dissipation of the fuse-link (W)	gG: 2,5W aM: 0,9W		gG: 3W aM: 1,2W				3W		gG: 5W aM: 3W		gG: 9,5W aM: 7W	
LED indicator operating range	50V-690V a.c.		50V - 600V a.c. 80V - 600V d.c.		50V-690V a.c.		50V - 600V a.c. 80V - 600V d.c.		50V-690V a.c.		50V - 600V a.c. 80V - 600V d.c.	
NEON indicator operating range	100V-750V a.c.		100V-750V a.c.									
Utilization category	AC-22B		AC-22B		Do not operate under load		AC-22B at 690V/50A		Do not operate under load		AC-21B at 690V/100A	
Operational performance (cycles with current)	300		300				300		300			
Operational performance (cycles without current)	1700		1700				1700		1700			
Humidity												
Operating ambient temperature	-5°C ... +40°C						-5°C ... +40°C		-5°C ... +40°C			
Store ambient temperature	-25°C ... +55°C						-25°C ... +55°C		-25°C ... +55°C			
Degree of protection (IEC 60529)	IP 20		IP 20				IP 20		IP 20			
Terminal capacity	1-25mm <sup>2</sup>		1-25mm <sup>2</sup>		AWG 18-8 solid&stranded Cu only		1,5-35mm <sup>2</sup> rigid or flexible		AWG 16-6 solid&stranded Cu only		4-50mm <sup>2</sup> rigid or flexible	
											AWG 12-2 solid&stranded Cu only	
Screw	PZ M5		PZ M5		PZ M5		PZ M5		PZ M5		PZ M6	
Torque	2Nm		2Nm		2Nm; 17,7 lb-in		2,5-3Nm		2Nm; 17,7 lb-in		3Nm	
											3Nm; 26,6 lb-in	
Mounting on EN 60715 rail											35mm rail	
Sealing possibility											ON and OFF	
Standards - fuse links	IEC/EN 60269-2		IEC/EN 60269-2		IEC/EN 60269-2		UL 248-4 IEC/EN 60269-2		IEC/EN 60269-2		IEC/EN 60269-2	
									IEC/EN 60269-2		IEC/EN 60269-2	
Standards - Fuse-switch disconnectors/fuse holders	IEC 60947-1 IEC 60947-3		UL 4248-1 UL 4248-4 UL 486E		IEC 60947-1 IEC 60947-3		UL 4248-1 UL 486E		IEC 60947-1 IEC 60947-3		UL 4248-1 UL 486E	
Test reports	CCA/CB		CCA/CB		UL		UL		CCA/CB		UL	
Certificates					UR <sub>US</sub>		UL <sub>US</sub>		UR <sub>US</sub>		UL <sub>US</sub>	

## Technical data

### Technical data EFD

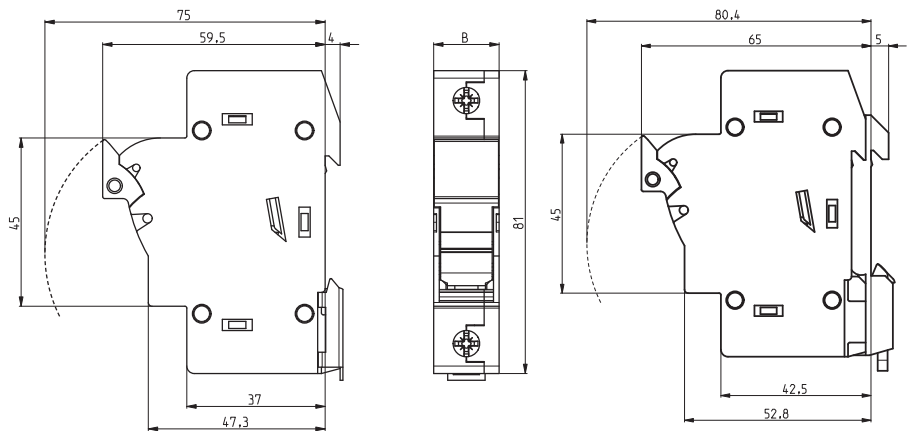
	EFD 8	EFD 10		EFD CC	EFD 14		EFD 22		EFD J30
Fuse type	CH 8x32	CH 10x38		Class CC	CH 14x51		CH 22x58		Class J, size J30
	IEC	IEC	UL	UL	IEC	UL	IEC	UL	UL
Derating factor of current $I_n$ for different ambient temperatures	20°				1				
	30°				0,95				
	40°				0,9				
	50°				0,8				
	60°				0,7				
	70°				0,5				
Derating factor of current $I_n$ for side by side mounting fuse holders (nr. of poles)	1-4				1				
	5-6				0,8				
	7-9				0,7				
	≥10				0,6				

### Fuse-switch disconnecter EFD 8, EFD 10

type	dimension B
EFD 8, 10 1p	17,5
EFD 8, 10 1p+N	35
EFD 8, 10 2p	35
EFD 8, 10 3p	52,5
EFD 8, 10 3p+N	70

### Fuse-switch disconnecter EFD CC

type	dimension B
EFD CC 1p	17,5
EFD CC 2p	35
EFD CC 3p	52,5



Version with adapter

### Fuse-switch disconnecter EFD 14

type	dimension B
EFD 14 1p	27
EFD 14 1p+N	54
EFD 14 2p	54
EFD 14 3p	81
EFD 14 3p+N	108

### Fuse-switch disconnecter EFD 22 & EFD J30

type	dimension B
EFD 22, J30 1p	35,6
EFD 22 1p+N	71,2
EFD 22, J30 2p	71,2
EFD 22, J30 3p	106,8
EFD 22 3p+N	142,4

