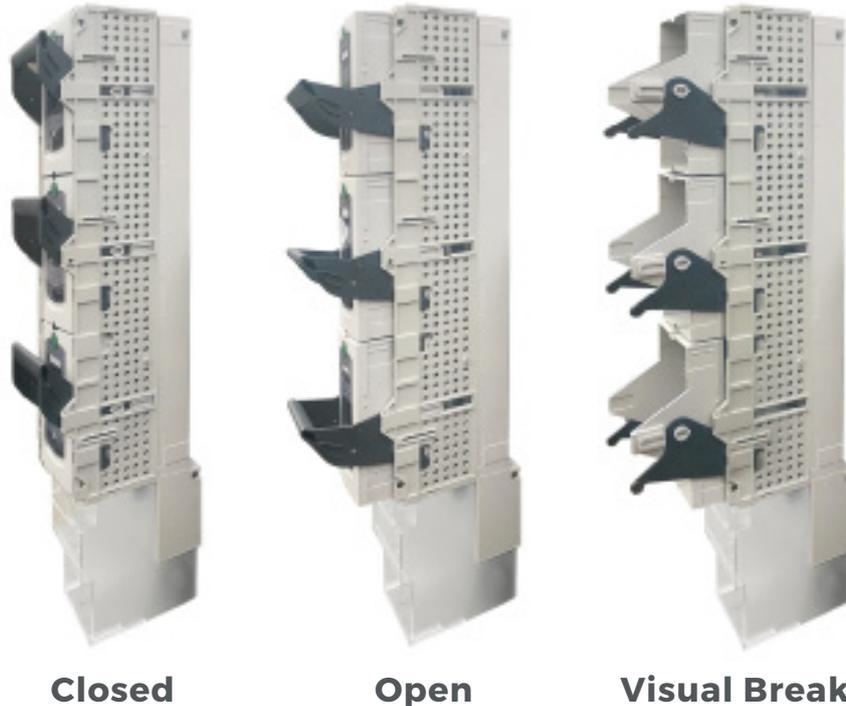


# EFEN LV Vertical Fuse Switch Disconnects

EFEN E3 Disconnecter is the next practicable step in LV network safety



## Isolating electricity supply at distribution sub-stations can be made safer with the latest generation of EFEN disconnectors.

The new E3 disconnecter keeps live terminals fully shrouded from touch at all times.

In the open position the E3 disconnecter holds the disconnected fuse under its cover, which maintains an IP2x barrier preventing finger touch of either source or load terminal. With distributed generation on the rise and more connected solar feeding into the LV network from residential and commercial premises, a fully shrouded approach better protects operators by eliminating the risk of exposed live fuse terminals.

In the E3 disconnecter the whole fuse is withdrawn in a parallel direction by levering the manually dependent switch in a way that opens both terminals of each fuse blade at the same time. This halves the

arc voltage by creating two smaller arcs – one at each terminal.

E3 disconnecters also manage heat more effectively, reducing the risk of over-heating. Heat build-up is minimised by improved housing ventilation and busbar design.

The improved design also delivers improved switching capacity with non-resistive loads, and higher short-circuit rating for improved performance in fault conditions.

The versatile range includes both simultaneous three phase switching as well as individual single phase switching from 100 A to 630 A. E3 disconnecters are available as either 1000A or 2000A isolators with knife links in place of fuses.

Other ratings are available on request, including parallel arrangements. Rear-connect and side-connect configurations are also available.

## LV Vertical Fuse Switch Disconnectors

### E3 Fuse Switch Disconnectors: Characteristics and Ratings

For Fuse-Links ACC. TO DIN 43620/1		Unit	00/100	00/185	2	3
		Size	000/00	000/00	2	3
Rated Operational Current $I_e$	400V	A	160	160	400	630
	500V	A	160	160	400	630
	690V	A	160	160	315	500
Conventional Free Air Thermal Current $I_{th}$		A	220	220	400	630
Rated Operational Voltage $U_e$		V	690	690	690	690
Rated Insulation Voltage $U_i$		V	1000	1000	1000	1000
Rated Impulse Withstand Voltage $U_{imp}$		KV	8	8	12	12
Rated Conditional Short Circuit Current	400V	KA	100	120	120	120
	500V	KA	100	120	120	120
	690V	KA	100	100	100	100
Utilisation Category VDE 0660 T107/EN/IEC 60947-3	400V		AC-23B	AC-23B	AC-23B	AC-23B
	500V		AC-22B	AC-22B	AC-22B	AC-22B
	690V		AC-22B	AC-22B	AC-21B	AC-21B
Mechanical Durability		Cycles	1400	1400	800	800
Electrical Durability		Cycles	200	200	200	200
Type Of Protection ACC. DIN/EN 60529/VDE 0470 T1		IP	30	30	20	20
Maximum Power Dissipation Of The NH Fuse-Links		W	12	12	34	48
Total Power Loss At $I_{th}$ (without fuse links)		W	20	22	56	111
Degree Of Pollution			3	3	3	3
Overvoltage Category			IV	IV	IV	IV
Rated Frequency		Hz	50-60	50-60	50-60	50-60
Weight Without NH Fuse-Links		KG	1.30	2.00	95-240	70-150

### E3 Isolators: Characteristics and Ratings

Size	Description	Unit	1000A	2000A
Rated Operational Voltage	$U_e$	Vac	690	690
Rated Operational Current	$I_e$	A	1000	2000
Rated Insulation Voltage	$U_i$	Vac	1000	1000
Rated Impulse Withstand Voltage	$U_{imp}$	kV	12	12
Rated Frequency	$I_{cw}$	Hz	5-60	5-60
Rated Withstand Short Circuit Current		kA	15	30
			20*	40*
Utilisation Category AC	400 V		AC-22B	AC-22B
	500 V		AC-21B	AC-21B
	690 V		AC-21B	AC-21B
Mechanical Durability – Cycles		N	800	600
Electrical Durability - Cycles		N	200	200
Maximum Power Dissipation Without Fuse Links		W	270	540
IP Protection (With Front Lid Open)	IP		20	20
Degree Of Pollution			3	3
Overvoltage Category			IV	IV
Material	All Material Conforms To RoHS			

\*With Handle Lock

## E3 Fuse Switch Disconnects and Isolators

Product Code	Din Size	Function	Current rating	Busbar pitch	Nominal width
			(A)	(mm)	(mm)
EFV00160H100	00	Fuse switch disconnect	160	100	50
EFV00160	00	Fuse switch disconnect	160	185	50
EFV2400	2	Fuse switch disconnect	400	185	100
EFV3630	3	Fuse switch disconnect	630	185	100
EFV3800	3	Fuse switch disconnect	800	185	100
EFV3910C	3	Fuse switch disconnect	910	185	100
EFV31000	3	Switch disconnect <sup>1</sup>	1,000	185	100
EFV31250D	2x3	Fuse switch disconnect	1,250	185	200
EFV31600D	2x3	Fuse switch disconnect	1,600	185	200
EFV31820D	2x3	Fuse switch disconnect	1,820	185	200
EV32000D	2x3	Switch disconnect <sup>1</sup>	2,000	185	200
EFV41600	4	Fuse switch disconnect	1,600	185	150

## Optional configurations and accessories

Product Code	Cable clamps		Cable connection adaptors		Three phase single throw handle	Low profile handles	Busbar connections			CT's
	V-Clamps	Extended	Compact	Rear			Side (Left)	Side (Right)	Bus coupler	
EFV00160H100										
EFV00160										
EFV2400										
EFV3630						R	SL	SR		
EFV3800										
EFV3910C			C	P	L				B	
EFV31000	V									250/400/ 600/800
EFV31250D		E								
EFV31600D										
EFV31820D										
EFV32000D										
EFV41600										

### Examples

EFV00160A: fitted with adaptor to fit 100 mm DIN2/3 spacing  
 EFV00160V: 160A DIN 00/185 fuse-switch-disconnect with V-clamps  
 EFV3630VP600: 630A DIN 3 fuse-switch-disconnect with V-clamps, low single throw handle and 600:5 CTs

### Notes

1. Switch disconnects (isolators) are supplied complete with knife switches

### Also available

Fuse links  
 Solid copper (knife) links  
 CTs with non-standard ratings and for external mounting  
 LV switchgear assembly frames, cabinets and underground pits



### Other literature available on request

Type test reports, drawings, technical data sheets.