



LOAD DISCONNECTORS 12, 24, 38.5kV

Rade Koncar-TEP

OUTDOOR LOAD DISCONNECTORS - Type FLA 15/6400/6410 and FLA 15/60 GBR



FLA 15/6400

Outdoor load disconnectors, is produced in Rade Koncar -TEP, used for many years on highvoltage long-distance lines, have proven their high reliability and safety of operation. Load disconnectors satisfy standards EN 60129, EN62271-1 and EN 60265-1. Used insulators satisfythe fourth grade of contamination area.

Simple load disconnectors of a sturdy structure proved themselves in an excellent way under very different climatic conditions.

Switching takes place in a tightly closed extinguishing chamber, filled either with Shell Diala D transformer oil or biologically degradable Shell FLUID 4600 transformer oil.

The load disconnectors can be provided with earthing switches located on the under side, auxiliary switches, and optionally equipped with overvoltage limiters.

Control of the load disconnectors and earthing switches is ensured by means of hand or motor outdoor drives.

OUTDOOR LOAD DISCONNECTORS - Type FLA 15/6400/6410

Load disconnectors of this type are designed for vertical mounting on the concrete or wooden pillar. Load disconnecter type FLA 15/6410 is provided with fuse holders mounted upright below.

Technical data

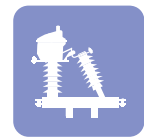
Rated voltage	U _r kV	12		25		38,5	
		FLa 15/6400	FLa 15/6410	FLa 15/6400	FLa 15/6410	FLa 15/6400	FLa 15/6410
Type load disconnecter							
rated current	I _r A	630	400	630	400	400	400
rated short-time current	I _k kA ¹⁾	20	16	25	16	20	16
rated peak withstand current	I _p kA	50	40	63	40	50	40
rated making current	I _{ma} kA ²⁾		10		10		10
rated breaking current – cos 0,7	I ₁ A		630		630		400
rated breaking current of closed loop	I ₂ A		400		400		400
rated breaking current off unloaded transformer	I ₃ A		50		53		10
rated breaking current when switching - off unloaded cables	I _{4a} A		11		20		20
rated breaking current of the earth fault	I _{6a} A		56		56		50

¹⁾ In short circuit time „t“ in range from 1 to 5 seconds, it is necessary to multiply one second short-time current by factor $\frac{1}{\sqrt{t}}$.

²⁾ At a sufficiently quick hand control.

Withstand voltages of FLa 15/6400 and FLa 15/6410 load disconnectors

rated voltage	kV	12	25	38,5
rated short-time withstand power frequency voltage / 1min. to be applied in both dry and wet environmental conditions				
against the earth, across the poles and between disconnected contacts	kV	28	50	80
across the isolating distance	kV	32	60	90
rated lightning pulse withstand voltage				
against the earth, across the poles and between disconnected contacts	kV	75	125	180
across the isolating distance	kV	85	145	210



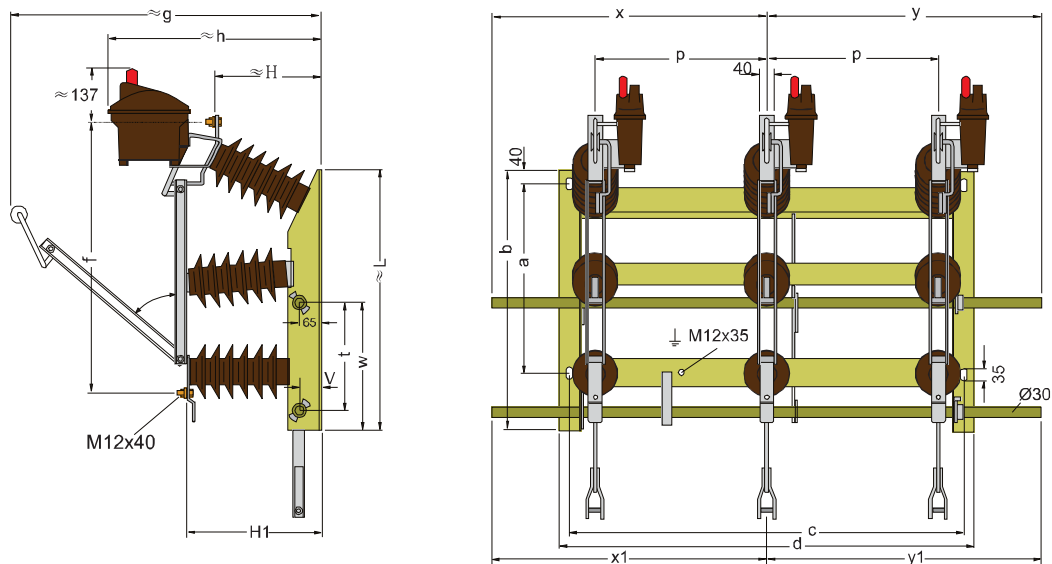
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Climatic conditions

highest temperature	°C	+ 40
lowest temperature	°C	- 30
highest relative humidity	%	100
highest wind pressure	Pa (m/s)	700 (34)
admissible hoar frost	mm	20
typical altitude	m a. s.	up to 1000

Usages in higher altitudes please consult with producer.

Three pole outdoor load disconnectors FLa 15/6400, dimensions



Without earthing switch

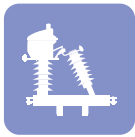
Rated voltage kV	Rated current A	Part no.	a	b	c	d	f	g	h	H	H ₁	p	v	x	y	Weight approx. [kg]
25	630	763 64003	550	760	1150	1210	793	905	620	311	392	500	375	800	800	104
38,5	630	763 94004	750	960	1550	1610	1044	1068	699	390	472	700	450	950	950	147

With earthing switch with mechanical locking

Rated voltage kV	Rated current A	Part no.	L	t	v	x ₁	y ₁	Weight approx. [kg]	
25	630	763 64103	1017	315	65	for missing measures	800	800	119
38,5	630	763 94104	1297	390	65	see table above	950	950	165

The switching devices can further be complemented with the following auxiliary equipment:

- motor operated drives,
- auxiliary switches.



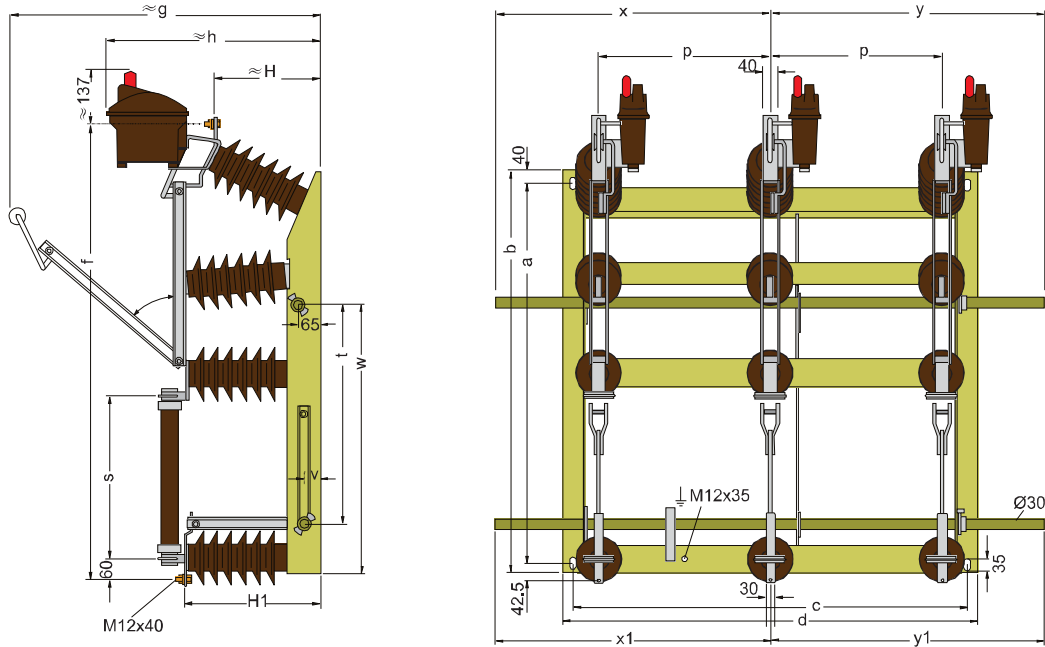
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Three pole outdoor load disconnectors FLa 15/6410, dimensions

With fuse holders mounted upright below
for HV HBC fuses to 200A rated current



Without earthing switch

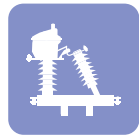
Rated voltage kV	Rated current A	Part no.	a	b	c	d	f	g	h	H	H ₁	p	s	w	x	y	Weight approx. [kg]
25	400	763 56003	1105	1167	1150	1210	1330,5	905	620	311	392	500	475	782	800	800	133
38,5	400	763 86004	1400	1462	1550	1610	1676,5	1068	699	390	472	700	570	952	950	950	182

With earthing switch with mechanical locking

Rated voltage kV	Rated current A	Part no.	t	v	x ₁	y ₁	Weight approx. [kg]
24		763 56103	632,5	65	for missing measures		148
38,5		763 86104	802,5	65	see table above		200

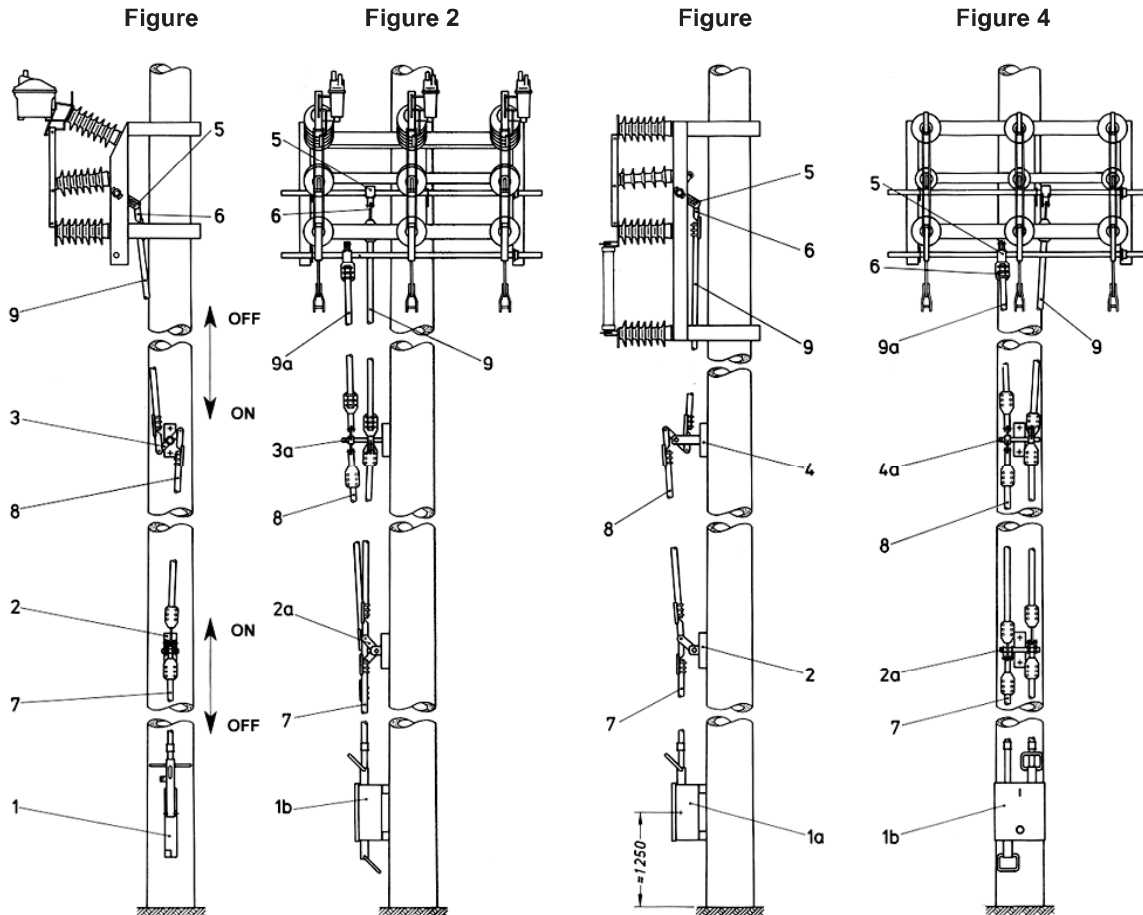
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OUTDOOR LOAD DISCONNECTORS - Type FLa 15/6400/6410

Arrangement of single and double actuators



Figure

1. Load disconnector FLa 15/6400
2. Load disconnector FLa 15/6400 with earthing switch mounted below
3. 6410 with fuse holders mounted below
4. Disconnector 6400 with earthing switch mounted below

Item

- 1 Single-actuator L, stroke 140 mm
- 1a Single box-type actuator, stroke 110 or 140 mm
- 1b Double box-type actuator
- 2 Single intermediate bearing
- 2a Double intermediate bearing
- 3 Single reversible bearing
- 3a Double reversible bearing
- 4 Single reversible bearing
- 4a Double reversible bearing
- 5 Forked clamping crank (gauge from 73 to 132.5 mm; hole matrix 8.5 mm)
- 6 Single stub head (with link bush)
- 7 Lower linkage rod, with thread
- 8 Linkage rod
- 9 Upper linkage rod for isolator or load-break switch
- 9a Upper linkage rod for earthing switch

Earthing switch operating lever (left-hand lever) mechanically locked to the disconnector operating lever.