DALMAN Co. (PVT) Ltd.

15KV FC-1 Pole Top Style Fuse Cutout

Manufacturer of M.V Drop out Fuse Cutout up to 36 kV and Expulsion Fuse Links (Fuse elements)

DALMAN

DALMAN CO. (PVT) Ltd.
Razi Bldg. Fakhre- Razi St.
Enghelab Ave.
TEHRAN 13147 - IRAN
P.O.Box 13145 - 1858

Tel. 66469022, 66409993
Fax. +98 21 66410040
E-mail:
Info@dalman-co.com
www.dalman-co.com

Factory: Km 5, Qazvin Road
P.O.Box 34815 – 389
TAKESTAN – IRAN
Tel. 522 5131,2
Fax. +98 282 522 1548

Banker:
Bank Melli Iran
Daneshgah Branch
Acct.: 87/700385

CONSTRUCTION

Ruggedness

The mechanical construction of the Type FC cut out is rugged and strong: it is designed to withstand the interruption forces of heavy fault currents and the typically forceful closing-in by linemen.

The upper contact and the hinge are attached to husky steel supports. Both supports and the mounting insert are permanently anchored into cavities in the insulator with inorganic cement, which does not deteriorate or absorb moisture. The cement will not shrink to loosen the inserts nor swell to put stress on the insert cavities of the porcelain. In fact, the cement retains a slight resiliency to absorb part of the shock of the interruption forces.

This cemented construction eliminates the conventional steel bands around the top, bottom, and center of the insulator. Such bands produce mechanical stress concentrations at these three points; their thin insulation coatings are subject to damage due to mishandling on installation and to deterioration with time and weather, and there is an eventual loss of bird proofing and a lessening of the leakage distance.

Super current transfer

The fuse tube is held at the upper contact by a self-aligning spring-loaded detent-type latch. The detent is heavily silver clad and features embossed surfaces for built-in wiping action – resulting in minimum electrical resistance between the upper contact and the silver-clad fuse tube cap.

The heavily silver-clad lower contacts also feature embossed surface for built-in wiping action, and are backed up by pre-stressed stainless-steel loading spring for efficient current transfer between the contacts and the silver-clad fuse tube trunnion.

These specially designed high-pressure upper and lower contacts, featuring built-in wiping action, assure superb current transfer – even after the contacts have been exposed to the atmosphere for an extended period of time.

No Fuse-Link Breakage

The Type FC Cut out has been engineered to prevent fuse-link breakage when the fuse tube is slammed shut. Instead of the conventional method of using the fuse link directly to restrain the toggle, a flipper is used as a lever to restrain the toggle.

During closing, the peak force acting downward on the top of the fuse tube may reach sixty pounds. However, the high reduction ratio of the Type FC lever system allows the impact to be absorbed before it reaches the fuse link.

This protection of the fuse link from the impact forces of closing does not impair the split-second flip-out of the fuse link when severed by fault current. (Flip-out is caused by the spring-loaded flipper and does not rely on the force of the exhaust or collapse of the toggle.)

Positive Mechanical Action

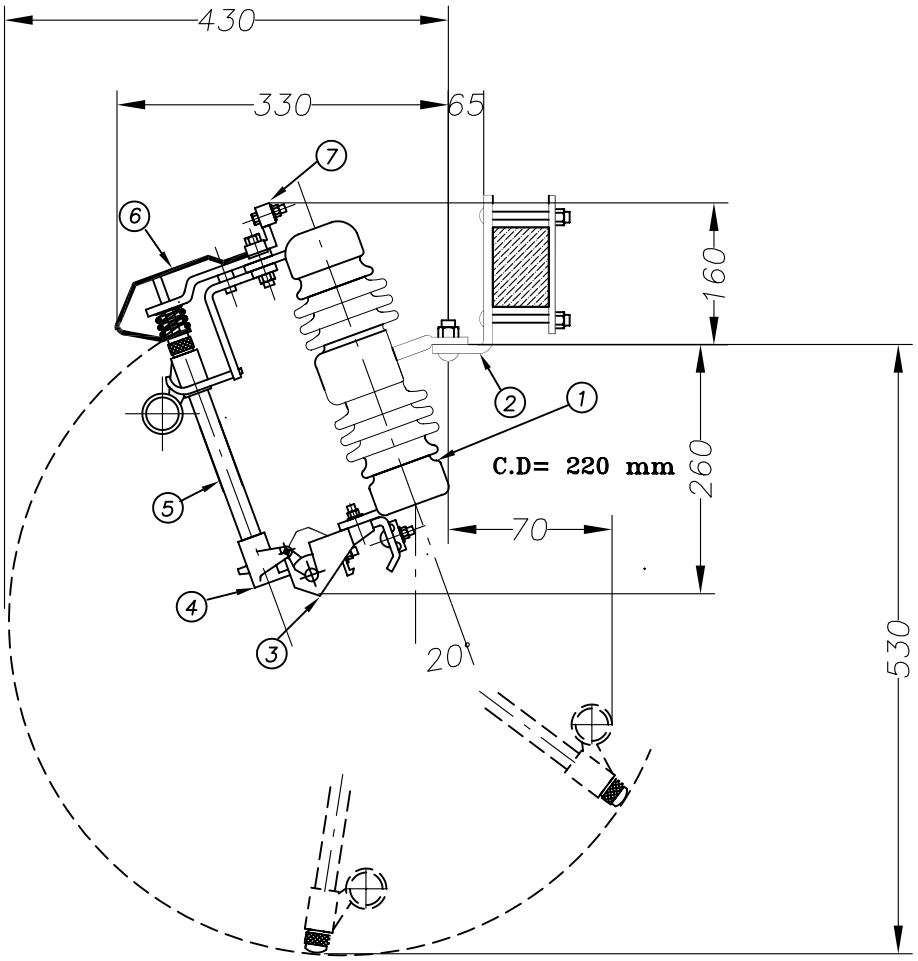
The Type FC cut out features:

- Easy tube insertion;
- Positive alignment when closing;
- Completely reliable dropout, regardless of fault-current level.

To make the fuse tube easy to install under all conditions, wide conspicuous ears on the hinge engage substantial trunnions on the fuse tube. Careful steering or manipulation is not required to hang the tube in the cut out.

Yet this ease of insertion has not compromised the sureness of closing – from any angle and under adverse condition of light and weather. Trunnion pocket in the ears of the hinge restrain the fuse tube from tilting right or left as it is swung closed. During the closing operation, the fuse tube is steered by the broad guiding surface at the hinge. As the tube approaches the upper contact, it is further controlled by Load buster attachment hook, and, at the end of the closing stroke, the fuse tube wipes in and seats positively in the detent-type latch.

To ensure dropout of the fuse tube after circuit interruption-even after long period of inactivity-the Type FC Cut out utilizes a high-speed spring-loaded flipper, which in addition to whipping out the severed fuse-link able, provides an impacting action to aid in the collapse of the toggle system. The upper contact springs also contribute to toggle collapse by pushing the fuse tube down and out into the open position.



Drop-Out Fuse Cutout

a)	**Creepage Distance**	*mm*	*220*
b)	**Nominal Voltage**	*KV*	*14.4*
c)	**Max. Design Voltage**	*KV*	*15*
d)	**Contineous Current**	*A*	*100*
e)	**Interr. Current (Sym.)**	*KA*	*12*
f)	**Min.Power Frequency Withstand**	*KV(Dry)*	*40*
g)	**Min.Power Frequency Withstand**	*KV(Wet)*	*35*
h)	**Min. Impulse Withstand**	*KV*	*95*

Item	Description	Qnty
7	DIECAST BRASS	1
6	Electric Copper	1
5	Vulcanized Tube Reinforced with Fiber Glass	1
4	DIECAST BRASS	1
3	ALUMINIUM BRONZE	1
2	NEMA Mounting Bracket	1
1	PORCELAIN	1

All dimensions in mm

FREE TOLERANCES ISO 286-2

DALMAN

DALMAN CO.(PVT) LTD, TEHRAN

Ordered by: کارفرما:

Date	Changes	Name	No.	Date	Name	
			1			Design by
			2			Drown by
			3			Cotrol by
			4			Appr. by 1
			5			Appr. by 2

Dwg.Title: عنوان نقشه: *Drop out Fuse Cutout Type FC 14.4/15 KV, 100 A*

جنس | وزن | مقیاس | تعداد | برگ

Ref. Code شماره مرجع

DWG.NO: *3117* شماره نقشه

DALMAN COMPANY

APPLICATION

DALMAN Type FC Cutouts provide complete overcurrent protection to overhead distribution system rated 15 KV though 38 KV, whether applied to overhead transformers, capacitors, cables, or lines. These cutouts accommodate universal buttonhead fuse links through 200A.Fuseholders with/ or without arc shortening rod for heavy –duty, extra heavy- duty, or ultra heavy–duty interrupting ratings and 300A disconnecting switchblade interchangeable with fuseholder, equip FC Cutouts for a wide range of application.

SPECIFICATION

Voltage Rating (KV)		B.I.L	Current Rating		Creepage	Catalog
Nominal	Max. Design	(KV)	Cont.(A)▲	Interrupting Asym.(KA)	Distance to Ground	Number 51- -
14.4	15	95	100	10,12 16,20●	8 1/2" (220mm) 8 1/2" (220mm)	511-11-081 511-21-081*
14.4	15	140	100	10,12 12, 16●	13" (330mm) 13" (330mm)	511-11-131 511-21-131*
14.4	15	150	100	12, 16●	17" (440mm)	511-21-171*
14.4	15	170	100	12, 16●	26" (660mm)	511-21-261*

▲ 200A fuse holder is also available

* Equipped with arc shortening rod, required removable button head fuse link.

● One shot rating based on replacement of cut out tube only.

All ferrous parts are hot dip galvanized as per ASTM A-153

Fuse Cutouts with higher Creepage distances, rated current and interrupting currents upon request.

STANDARD: ANSI C37.42 , IEC 60282-2

ISO 9001:2000 CERTIFIED COMPANY

http://www.dalman-co.com Email : info@dalman-co.com