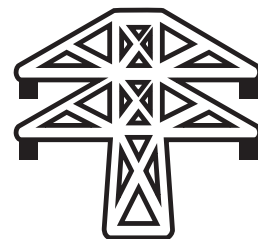


HV LINES AND SWITCHGEAR EQUIPMENT



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THORNE &
DERRICK
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com



VOLTAGE DETECTORS

IEC ELECTRONIC VOLTAGE DETECTORS (MV), “COMPACT SERIE” FOR INDOOR AND OUTDOOR USE

Ultimate technology of voltage detector “Head Capacitive Technology»

Compact and light, it offers a wide band (10/36 kV).

Operating check

By pressing the TEST button:

- A RED LED flashes on.
- Powerful rated audible signal > 67 dB(A)/2 m.
- When loosening the button, the timed GREEN LED lights up. While remaining on, it indicates the good working order of the detector.

Characteristics

- Precise and stable operating threshold.
- High environmental resistance (impacts, vibrations, moisture).
- Temperature conditions: class N (IEC 61243-1 standard).
- Use from 50 to 60 Hz.

Composition

- Robust housing.
- Weight: 350 g.
- Dimensions: Ø 59 x 270 mm.

BENEFITS

- Results visible over 360° with a powerful light. Voltage range pre-selected to your application.

Reference		Operating voltage		
	Frequency		Type 6 LR-61	
CC-765-2/72-(*)	50/60 Hz	2 - 72 kV	9 V	0.35
CC-765-3/10-(*)	50/60 Hz	3 - 10 kV	9 V	0.35
CC-765-5/18-(*)	50/60 Hz	5 - 18 kV	9 V	0.35
CC-765-5,5/20-(*)	50/60 Hz	5.5 - 20 kV	9 V	0.35
CC-765-10/30-(*)	50/60 Hz	10-30 kV	9 V	0.35
CC-765-10/36-(*)	50/60 Hz	10 - 36 kV	9 V	0.35
CC-765-11/33-(*)	50/60 Hz	11 - 33 kV	9 V	0.35
CC-765-15/45-(*)	50/60 Hz	15-45 kV	9 V	0.35
CC-765-20/66-(*)	50/60 Hz	20 - 66 kV	9 V	0.35
CC-765-30/66-(*)	50/60 Hz	30 - 66 kV	9 V	0.35
CC-765-44/132-(*) ⁽¹⁾	50/60 Hz	44 - 132 kV	9 V	0.35
CC-765-63/90-(*) ⁽¹⁾	50/60 Hz	63 - 90 kV	9 V	0.35

(*) Specify type of mounting when ordering: C or K.

(1) supplied with 1 hook-shaped contact electrode CC-ANT 120 (Ø120 mm).

Packaging: unit supplied complete in a case with batteries and contact electrodes (straight and V-shaped).

For other voltages, please consult us.

IEC 61243-1 :2003+ AC1: 2005 +A1: 2009



CC-765...C

End fitting C

CC-765...K

End fitting K

CC-775 : 2 voltage ranges detector, in compliance with IEC 61343-1

Reference	1st voltage range		2nd voltage range	
	Un min (uu)	Un Max (vv)	Un min (xx)	Un Max (yy)
CC-775-2/7-12/25-(*)	2 kV	7 kV	12 kV	25 kV
CC-775-2/72-12/36-(*)	2 kV	7.2kV	12 kV	36 kV
CC-775-2/72-34/115-(*)	2 kV	7.2 kV	34 kV	115 kV
CC-775-33/11-22/66-K	3.3 kV	11 kV	22 kV	66 kV
CC-775-4/14-24/69-K	4 kV	14 kV	24 kV	69 kV
CC-775-4/144-25/69-K	4 kV	14.4 kV	25 kV	69 kV
CC-775-47/15-25/69-K	4.7 kV	15 kV	25 kV	69 kV
CC-775-6/12-22/66-C	6 kV	12 kV	22 kV	66 kV
CC-775-11/22-33/66-K	11 kV	22 kV	33 kV	66 kV
CC-775-12/24-52/132-(*)	12 kV	24 kV	52 kV	132 kV

(*) End fitting : C or K



C

K

End fittings:

C: hexagonal 12 mm, for hexagonal end-fitting sticks,

K: universal, for universal end-fitting sticks.

Recommended stick:
CE-4-21, CE-75, CE-9.

IEC VOLTAGE DETECTORS (HV) FOR OUTDOOR USE

Precise and stable operating threshold. Insensitivity to induced voltages by limiting the operating voltage range. Remarkably resistant to impacts, vibrations, extreme temperatures, humidity.

Double signalling.

Voltage presence indicated at the same time by:

- 4 bright **RED** flashing electro-luminescent diodes (visible at more than 50 meters even in direct lighting),
- a powerful rated acoustic signal (60 dB/2 m).

The CC-265 detector is supplied with 3 end fittings for stick mounting:

W: Hexagonal 20 mm,

C: Hexagonal 12 mm,

K: Universal.

Robust housing made from polycarbonate with high mechanical properties and dielectric strength.

Check that the device is working by pressing the TEST button. This test all of the detector's active components once the TEST button is released.

Two **GREEN** illuminated lights, indicating that the device is on. These lights turn off, and four **RED** lights illuminate when a voltage is detected.

Power supply : 1 battery 9 V type 6LR61 (included).

Storage temperature : - 25 /+ 55°C.



IEC 61243-1 :2003+ AC1: 2005 +A1: 2009



End fitting K



End fitting C



End fitting W



CC-265-90/225



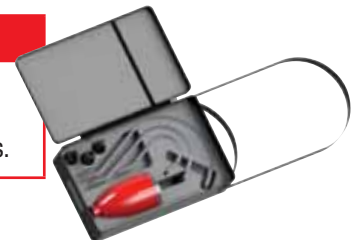
CC-265-90/245

BENEFITS

- Illuminated display Broadcast over 360°.
- Use in rain conditions.
- Shock Absorber fitting.
- New fixation ring (for the hook).

NEW

- 360° vision for optimal visibility.
- Delivered with 3 end fittings.



Reference		Housing Colour	IEC 61243-1	Contact electrode	Contact electrode (Ø mm)	
	Voltage range					Detector weight
CC-265-44/132 (*)	44 - 132 kV		•	CC-ANT120	120	0.68
CC-265-60/90 (*)	60 - 90 kV		•	CC-ANT60 & CC-ANT120	60 - 120	0.68
CC-265-60/150 (*)	60 - 150 kV		•	CC-ANT60 & CC-ANT120	60 - 120	0.68
CC-260-60/235 (*)	60 - 235 kV		-	CC-ANT120	120	0.68
CC-265-90/225 (*)	90 - 225 kV		•	CC-ANT120	120	0.68
CC-265-120/245 (*)	120 - 245 kV		•	CC-ANT200	200	0.68
CC -260-132/380 (*)	132 - 380 kV		-	CC-ANT200	200	0.68
CC-260-150/420 (*)	150 - 420 kV		-	CC-ANT200	200	0.68
CC-265-225/420 (*)	225 - 420 kV		•	CC-ANT60, CC-ANT120, CC-ANT200	60, 120, 200	0.68
CC-260-225/550 (*)	225 - 550 kV		-	CC-ANT200	200	0.68

Delivered with modern, lightweight and impact-resistant case.

(*) Please specify type of mounting when ordering: C or K

For other voltage ranges, please consult us.



INSULATING STICKS

INSULATING STICKS FOR MANOEUVERING DETECTORS & SHORT-CIRCUITING AND EARTHING SYSTEMS

This range thus allows a stick-length limitation in case of space requirements and carrying capabilities.
For common applications a series of complete sets including 2 or 3 elements are providing simple solutions for working distance from 2 to 6 meters.

	Reference	↔	↔	↔	kg
		Smallest end fitting (m)	Longest end fitting (m)	Insulating (m)	Weight
Basic	CM-4610	1.13	—	—	1.25
	CM-4615	1.63	—	—	1.70
	CM-4620	2.13	—	—	2.70
	CM-4625	2.63	—	—	3.20
Intermediate	CM-4610-I	1.165	—	—	1.20
	CM-4615-I	1.665	—	—	1.60
	CM-4620-I	2.165	—	—	2.50
	CM-4625-I	2.665	—	—	3.00
Terminal	CM-4610-(*)	1.115	1.21	1.21	0.90
	CM-4615-(*)	1.615	1.71	1.71	1.30
	CM-4620-(*)	2.115	2.21	2.21	2.10
	CM-4625-(*)	2.615	2.71	2.71	2.60
Fixed sticks	CM-4115-(*)	1.575m	1.675	1.675	1.35
	CM-4120-(*)	2.075	2.175	2.175	1.8
	CM-4125-(*)	2.575	2.675	2.675	2.8
	CM-4130-(*)	3.075	3.175	3.175	3.3

(*) Reference to be completed by fitting: C-E-H-K-T-D.



IEC 60855 
EN 50508

Basic element.

Terminal element.

Intermediate element.

Insulating Stick bags page 189



SET OF STICKS

Complete sets of sticks for common applications.

Reference	Composition**	↔	Icc (kV)
		Length (m)	
CM-4220-(*)	2 elements : CM-4610+CM-4610-(*)	2	90
CM-4230-(*)	2 elements : CM-4615+CM-4615-(*)	3	170
CM-4240-(*)	2 elements : CM-4620+CM-4620-(*)	4	220
CM-4345-(*)	3 elements : CM-4615+CM-4615-I+CM-4615-(*)	4.5	310
CM-4360-(*)	3 elements : CM-4620+CM-4620-I+CM-4620-(*)	6	410

(*) Reference to be completed by fitting: C, E, H, K, T et D.

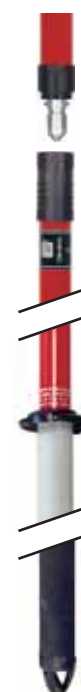
(**) References sold separately on request.

Intermediate element with rain skirts.

Reference	↔	kg
	Smallest end fitting (m)	Weight
CM-3900-J	0.36	0.95



CM-3900-J



CLAMPS

Body in aluminium alloy with trapezoidal threaded screw. Interposed elastic washers in the clamping system improve efficiency and ensure a higher withstand in case of electrodynamic shock. Manoeuvring by CM-6 insulated stick of appropriate length and characteristics.

PRO

IEC 61230 : 2008



MT-731-E



MT-732-E



MT-734



MT-735-H



MT-737-H

Manoeuvrable clamps									
	MT-732-A MT-731-A	MT-732-B MT-731-B	MT-732-E MT-731-E	MT-732-H MT-731-H	MT-734 MT-735	MT-734-A MT-735-A	MT-734-B MT-735-B	MT-734-E MT-735-E	MT-734-H MT-735-H

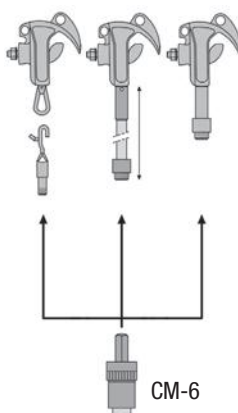
Reference	Icc (kA/1 s)		Copper connection				
		Dimension (mm)	Copper cables **	Contact range width	Stud	Clamp capacity (mm)	
MT-731-(*)	40	200 x 200 x 50	150 mm ² max.	45 mm	M 12	Ø 5-60	1.45
MT-732-(*)	40	200 x 200 x 50	150 mm ² max.	45 mm	M 12	Ø 40-120	1.45
MT-734-(**)	40	145 x 125 x 52	150 mm ² max.	40 mm	M 12	Ø 5-40	0.8
MT-735-(*)	40	178 x 175 x 60	150 mm ² max.	40 mm	M 12	Ø 15-60	0.9
MT-737-H	40	240 x 200 x 55	150 mm ² max.	40 mm	M 12	Ø 20-120	1.35

(*) Add type of connection A - B - E - H. (**) Add type of connection B - E - H. **Other cable sections: see page 205 - 206.

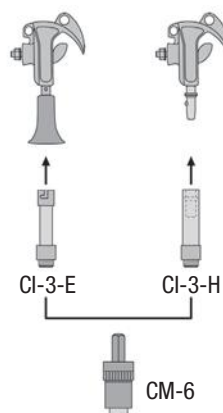
Attachment of MT-735 or MT-734 clamps with MT-717-3-B hook.



Direct connection.



Connection adaptor.





EARTHING SYSTEM (APE)

EARTHING SYSTEM WITH INTERLOCKING CLAMPS

IEC 61230 : 2008 

The APE is a grounding system with an interlocking system between earthing and line clamps. It is used for safe and accurate installation (earthing clamp and then line clamp) and removal (line clamp and then earth clamp).

BENEFITS

- Locking system using a patented system with more than 30,000 possible combinations.
- Easy installation and removal without additional accessories.
- Automatic trip at the recommended torque on support withstand the short circuit current.
- System security (unable to be unlocked without the associated clamp).



Substation clamp

Line clamp



One reference including 3 phases, so 3 clamps equipped.

Reference	Rating kA/1 s	Use	Fitting	Connection		 (mm)	 (mm)	
				Range	Stud			
MT-834-H	40	Substation	H hexagonal	width 38 mm	M 12	360 x 200 x 85	5 - 40	3.2
MT-834-E	40	Substation	E bayonet	width 38 mm	M 12	360 x 200 x 85	5 - 40	3.2
MT-834-T	40	Substation	T bayonet	width 38 mm	M 12	360 x 200 x 85	5 - 40	3.2
MT-835-H	40	Substation	H hexagonal	width 38 mm	M 12	390 x 200 x 85	15 - 60	3.48
MT-835-E	40	Substation	E bayonet	width 38 mm	M 12	390 x 200 x 85	15 - 60	3.48
MT-835-T	40	Substation	T bayonet	width 38 mm	M 12	390 x 200 x 85	15 - 60	3.48
MT-837-H	40	Substation	H hexagonal	width 38 mm	M 12	470 x 220 x 85	20 - 120	3.88
MT-837-E	40	Substation	E bayonet	width 38 mm	M 12	470 x 220 x 85	20 - 120	3.88
MT-837-T	40	Substation	T bayonet	width 38 mm	M 12	470 x 220 x 85	20 - 120	3.88
MT-934	40	Line	ring	width 38 mm	M 12	360 x 200 x 85	5 - 40	3.2
MT-935	40	Line	ring	width 38 mm	M 12	390 x 200 x 85	15 - 60	3.48



EARTH CLAMPS FOR OVERHEAD LIVE NETWORKS AND SUBSTATIONS

IEC 61230 : 2008

Copper aluminium bronze earth clamps.



MT-843



MT-843-P



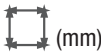
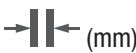
MT-847



MT-852



MT-853

Reference	Rating kA/x s	Use	Connection Ø (mm)	 (mm)	 (mm)	
				Dimension	Clamp capacity	Weight
MT-843	40 kA/1 s	Substation/ Overhead line	Hole : Ø 12.5	45 x 106 x 165	 Ø 6 -25  0 - 35	0.95
MT-843-P	40 kA/1 s	Substation	3 Holes : Ø 12.5	45 x 106 x 165	 Ø 6 -35  0 - 35	0.95
MT-847	25 kA/0.5 s	Overhead line	Hole : Ø 13	45 x 106 x 170	 0 - 30	1.00
MT-852	63 kA/0.5 s	Substation	Hole : Ø 13	70 x 125 x 155	Fixed points	1.40
MT-853	40 kA/0.5 s	Substation	Hole : Ø 13	65 x 130 x 135	Fixed points	1.00

COPPER CABLES

Extra-flexible braided multi-strand copper.
Delivered to the meter with a minimum of 5 meters.
Available in vinyl or silicone sheath.

IEC 61230 : 2008





EQUIPOTENTIAL LINES

Use

Conductive line connecting two pieces of metallic pieces in order to give them the same potential.

- Cable composition and features:

35 mm² copper cable insulated in a green silicone sheathing.

Double crimped lugs at the cable ends.

Reference	Characteristics
M-24-35-V	Cable 35 mm

- Clamp and stick composition and features:

Insulating stick equipped with a clamp MT-735 in aluminium alloy with Ø 15 to 60 mm clamp capacity.

Reference	Characteristics
MT-735-P4	Clamps MT-735 on stick 400 mm

- Earth Clamp composition and features:

All the earth clamps of page 205 are available to complete the equipotential lines.

PRO

IEC 61230 : 2008



MT-843

ALUMINIUM CABLES

Extra flexible braided multi-strand cables. Transparent PVC sheath, with cable section identification.

Reference	Rating (kA/1 s)	Cable		Section (mm ²)
		Weight (kg/m)	Ø (mm)	
M-28-70	10.0	0.240	13.4	70
M-28-120	17.5	0.430	19.00	120
M-28-150	20.0	0.510	21.00	150

IEC 61230 : 2008



ADJUSTABLE ACCESS POINTS

For large vertical or oblique heavy duty conductors.

Reference	Characteristics	Use	(mm)	Conductor		Weight
			Dimension	Type	Ø (mm)	
MT-790	Copper/Alu alloy Ø 18 mm	30	255 x 105 x 50	Copper	12 - 60	1.40
MT-792	Light alloy Ø 20 mm	30	270 x 105 x 60	Aluminium	12 - 60	0.85
MT-797	Light alloy Ø 20 mm	30	240 x 170 x 60	Aluminium	60 - 120	1.20



SHORT-CIRCUITING AND EARTHING SYSTEM CARRYING BAGS

Can receive earthing system equipment (clamps and cables). Double crimped lugs at the cable ends.

Reference	 (mm)	 kg
	Dimension	Weight
M-87-53	380 x 250 x 400	2
M-87-153	380 x 250 x 600	2.5
M-87295	550 x 300 x 300	1.5



M-87295



M-87-153

ROPE OPERATED CLAMP

Attachment and removal is carried out from the ground or from the cross-arm, using a rope passed previously over the conductor to be earthed. Up to 10 m: by using **MT-709-B** reel launcher placed on a stick that passes the rope over the conductor;

- This projector fires an arrow carrying a braided nylon wire which sets the rope. The clamp is then fixed to the rope and attached onto the conductor.

Attachment: the clamp is pulled up by the rope. Pulling on the rope triggers the spring and closes the jaw.

Removal: pulling on the rope attached to the hinged saddles causes the clamp to pivot and free the jaw.

Spring operated swinging jaw with pre-set.

IEC 61230 : 2008 

Reference	 (mm)	Icc (kA/1 s)	 (mm)	 kg
	Clamp capacity		Dimension	Weight
MT-701/1	Ø 12 - 48	30	195 x 120 x 175	2
	Earthing cable: cable 120 mm ² with crimped lugs on M12 screw (x3)			



MT-709-B



MT-708-40



MT-701/1





WIRE GUN TESTER

An extremely simple way to test the voltage in an overhead line without leaving the ground. Just shoot a weighted arrow over the line - up to 18 m high - forming contact between the conductors through a very lightweight braided steel cable.

If they are both live, this produces a sparkover and alerts the user. The **MF-60** gun can also be used to shoot an insulating cord for handling **MT-701/1** contact clamps.

Reference	Characteristics
MF-60	Complete cable-launcher projector delivered in a waterproof bag with 2 spare arrow and 2 spool of 30 m fuse wire, 3.5 kg
MF-61	Spare arrow
MF-62	Spool of 30 m of fuse wire
MF-63	Spool of 100 m of fuse wire
MF-66	Spool of 30 m of nylon lead isolated hoisting cord.isolantes





MV LIVE WORKING SAFETY SHOES

AGAINST ELECTRICAL HAZARDS OF STEP VOLTAGE

- Medium network voltage: Electrical Hazard Resistance 18 kV.
- Ideal for work at height (ladder, pylon).

BENEFITS :
Light and comfortable

Standards
EN ISO 20345 :2011
ASTM F 2413:2018
RTE SERECT : ST HTA 70A Ind. E

Wear indicator

