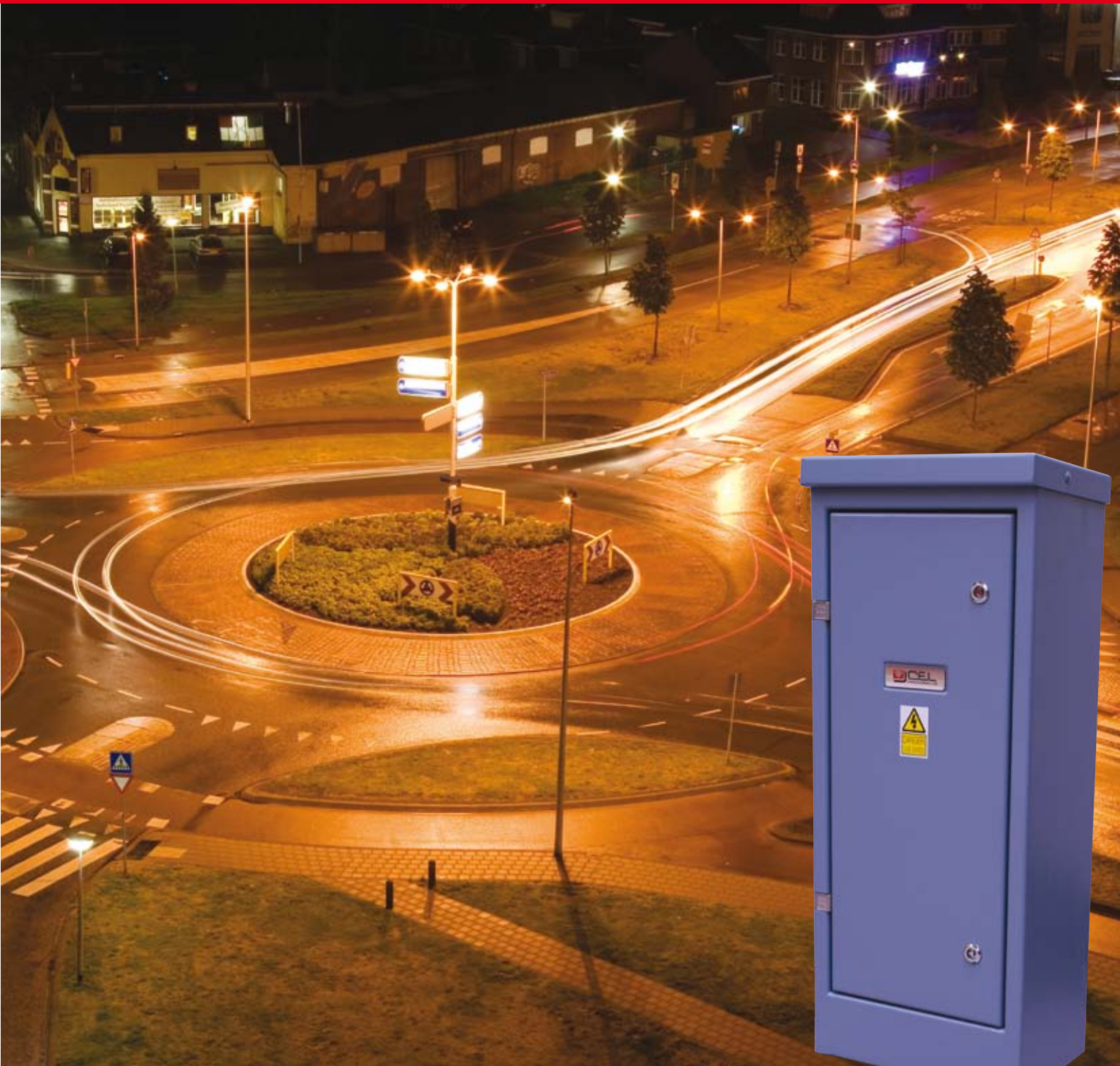


CEL | Passive Safety | Fuses | Surge Protection |
Emergency Doors | Strimmex



PASSIVE DISCONNECTION - CELsafe™

In support of the Government's drive to reduce the human and financial cost of Road Traffic Accidents, CEL has developed the CELsafe™ Electrical Disconnection System which meets the latest requirements of BSEN 12767. A number of customers have had instances during actual RTAs, where potentially life-saving successful disconnections have taken place.

Within the CELsafe™ range four systems are available to meet specific project requirements. They all provide safe and automatic disconnection of the electrical supply following vehicle impact to a lighting column or other similar structure.



CEP 1

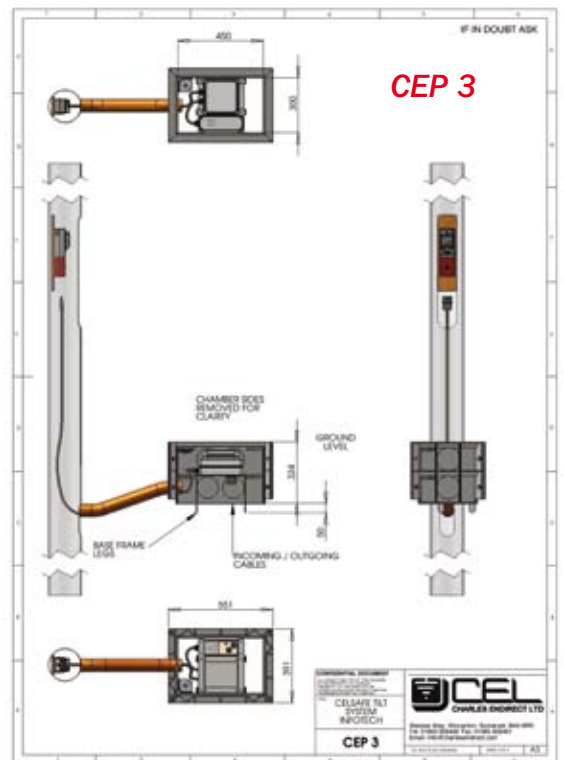
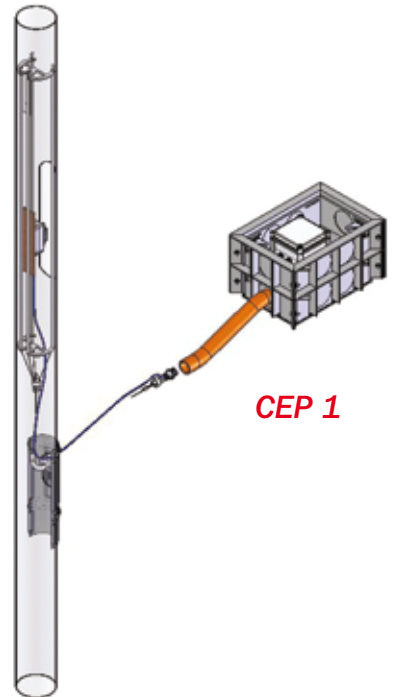
Unique patented cage system for a mechanical based solution. Designed for use in aluminium columns and other passively safe structures. The IP67 box in the ground chamber can be fitted with a choice of protective devices, eg MCB, switch or fuse carrier. The cage is easily fitted into the column prior to planting - full instructions are supplied.

CEP 2

Innovative triggered isolator mounted device with fail-safe electronic trip. The socket in the column has a spring and latch which is connected via a steel cable to the ground chamber. If the column is struck the tension in the cable will operate the latch causing socket ejection separation and electrical isolation. Again the IP box in the ground chamber can be fitted with protective devices.

CEP 3

The system is based on a tilt switch and MCB shunt trip in an IP box in the ground chamber. A tilt switch housed within the column isolator controls the shunt via a looped circuit. A violent impact or 14 degree inclination of the column will cause the shunt to trip the MCB resulting in electrical disconnection. Physical disconnection of the plug/socket will also cause the shunt to trip the MCB.



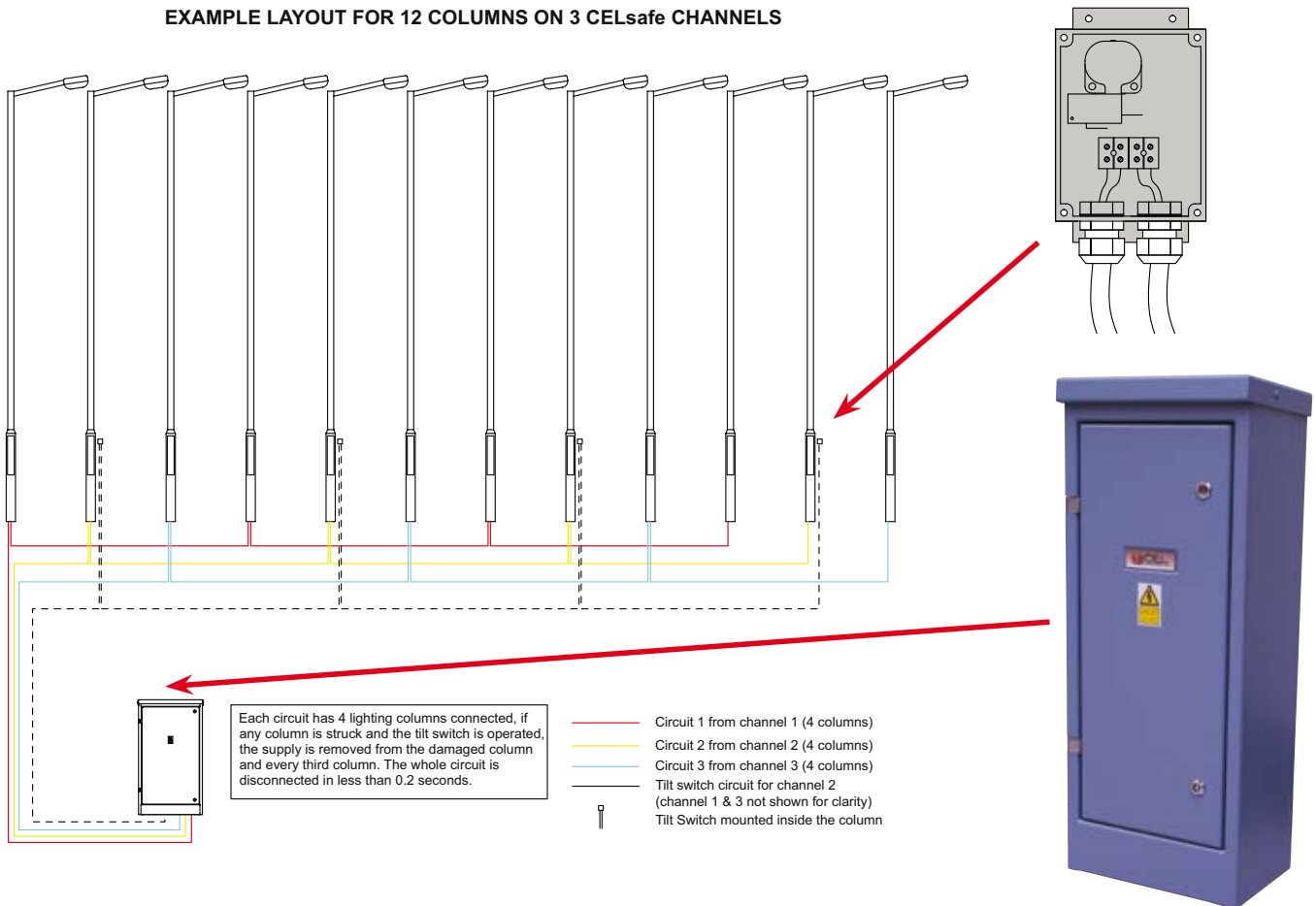
PASSIVE DISCONNECTION - CELsafe™ (continued)

CEP 4

An above ground solution. All electrical control equipment is contained in a feeder pillar with each circuit having multiple columns connected, hence in a knock-down situation only the columns on the same circuit will be put out of light. This system provides easier and economical installation, ie, no underground chamber, and simpler reinstatement in the case of a knock-down.

Each column is fitted with a tilt switch which is wired back to a distribution board circuit in a nearby feeder pillar. As the sensor is an electro-mechanical device it draws no current. On impact the tilt switch activates causing the isolation device to operate, therefore switching off the electricity supply – within less than 0.4 seconds. A CELcom™ device can be installed in the feeder pillar which uses GPRS technology to send SMS and email notifications of a knock-down to multiple nominated mobile telephones and email addresses.

EXAMPLE LAYOUT FOR 12 COLUMNS ON 3 CELsafe CHANNELS



CEP systems - the advantages for you:

- ✓ Four systems available
- ✓ Meets requirements of BSEN 12767
- ✓ All options designed for low maintenance
- ✓ Simple and effective electrical disconnection as per regulations
- ✓ Separate IP box for protective devices
- ✓ Separate IP box for incoming cable termination
- ✓ Cable entry points in IP box protected with gel
- ✓ Proven operational success

Dimensions:

Ground Chamber – CEP1 - CEP3 300mm x 450mm (c/w B125 cover)

IP Box CEP1 – CEP3: H190mm x W190mm x D130mm

Feeder Pillar CEP4: size dependant on number of channels



Typical CEP4 Installation

CELcom™ Alarm Monitoring and Control System

CELcom™, as used in CEP4, is a compact monitoring alarm and remote control device for electrical/electronic equipment with support of Short Message (SMS), phone calls, e-mails and GPRS connections. The device is programmed through an internal web server interface via GSM network and RS232 interface. Multiple pre-programmed users can control CELcom™ or be notified on configurable events.

Applications:

✓ In above ground Passive Safety System CEP4. In the event of a column being struck and disconnected, a preset SMS or e-mail message will be sent giving details of location.

Example SMS:



✓ In a feeder pillar to control lighting where activation by remote switching is required

Example SMS:



FUSES

CEL stock a range of fuses for a variety of applications.

FUSES FOR ISOLATORS:

MD RANGE

The popular Lawson type MD cylindrical style fuse-links are rated at **400V** a.c. and are approved to: BS88: Part 1 and IEC 60269-1. They also meet the performance requirements of BS88: Part 2, IEC 60269-2 and EN 60269-2.



LD RANGE

The popular Lawson type LD cylindrical style fuse-links are rated at **230V** a.c. and are approved to: BS88: Part 1 and IEC 60269-1. They also meet the performance requirements of BS88: Part 2, IEC 60269-2 and EN 60269-2.



FUSES FOR CUTOUTS:

LST RANGE

Type LST **230V** a.c. tag type fuse-links for street lighting cut-outs comply with BS88: Part 1 and IEC 60269-1. These fuse-links, with a breaking capacity of 20kA at 240V a.c. offer excellent protection.

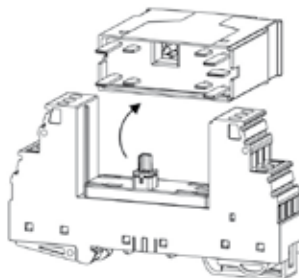
Fuse Type	Current Rating Available BS88: Amps (A)
MD (400V)	2, 4, 6, 10, 16, 20, 25, 32
LD (230V)	6, 10, 16, 20, 25, 30 (BS1361)
LST (230V)	2, 4, 6, 10, 16, 20, 25, 32

SURGE PROTECTION CELprotect™

Voltage surge arresters are designed to protect circuits against high transient voltages (spikes) caused by switching of high inductive loads and lightning strikes. These products are becoming essential in the lighting industry with the increased need to protect electronic equipment. Especially expensive LED Drivers, CCTV and communication equipment.

A surge protection device fitted within a three module enclosure (L3) can take a maximum surge of 10kA or nominal surges of 3kA. CELprotect™ can take multiple low value surges before degradation occurs.

The device is pluggable in order that it can be replaced after degradation. An indicator shows the status of the unit. Pre-wired with D/I & Earth tails for ease and speed of installation.



The device is din rail mounted and is the same size as an MCB. The plug can be replaced through the aperture so that the cover need not be removed. The device front clearly shows the type with its rated voltage and current.

A test unit, the Checkmaster, is also available. The Checkmaster is a unique tester into which the plug from CELprotect™ can be inserted and run a series of non destructive tests to determine if the unit has been degraded, and to what extent, showing if it needs replacement.

Technical information

AC Network	Single phase network: 230V
Max operating voltage (Uc)	320V
Nominal discharge current (In)	2.5kA
Nominal Load Current	26A
Max Discharge current (Imax)	10kA
Protection level (at In) (CM/DM) Up (Up)	≤ 1.5kV
Isolation Resistance (Risol)	>10 ³ MΩ
Test standard	IEC 61643-1:1988
Disconnection indicator	Mechanical indicator + terminal for remote monitoring
Operation temperature range	-40°C~+85°C
Disconnection Device	Thermal cut off member

The advantages for you:

Manufactured for quality:

- ✓ KEMA approved (KEMA international testing & certification laboratory www.KEMA.com)
- ✓ Full compliance with EN61343-11:2002 + A11

Ease of installation:

- ✓ Protects costly electronic gear from high voltage surges
- ✓ Pre-wired with tails
- ✓ Replaces need for standard isolator
- ✓ Other devices for single and three phase circuit in feeder pillar available.

EMERGENCY DOORS



Our popular and universal curved Emergency Door fits all tubular columns and its flat equivalent fits concrete columns. Carried as a matter of course, and easily fitted by street lighting patrols, the doors help maintain public safety and prevent further damage to components and circuitry.

Non-conductive doors are moulded from tough 3mm ABS. Fixing is either by re-usable standard zinc plated banding or polyamide. All banding is retained in moulded channels to help minimise danger from sharp edges.

The advantages for you:

- ✓ A quick response to vandalised and damaged columns and signposts
- ✓ Fits all curved and flat columns
- ✓ Easily adapted for smaller applications
- ✓ Minimises the danger to public - fast
- ✓ Further internal damage contained - fast

Temporary Supply Door

The curved door can be fitted with an IP65 supply box to provide safe secure housing for sockets and RCCBs and allow quick, easy access to power supply for routine maintenance in an emergency. Supply boxes are available in two sizes, firmly fixed by 4 nylon bolts, and factory fitted with backboards. Doors are secured by Tri-head key locks.

Ordering Information for Emergency Doors and Temporary Supply Doors	
SD/1	Curved door only
SD/2	Curved door + zinc plated bands/slotted screws
FSD/1 (size)	Flat door only
FSD/2 (size)	Flat door + zinc plated bands/slotted screws
TSD/1	Curved door fitted with small box only
TSD/2	Curved door fitted with small box + zinc plated bands/slotted screws
TSD/1L	Curved door fitted with large box only
TSD/2L	Curved door fitted with large box + zinc plated bands/slotted screws
TSD/1/Supply	Curved door fitted with large supply box c/w Isolator, plug and socket
TSD/2/Supply	Curved door fitted with large supply box c/w Isolator, plug and socket + bands
SD Straps	2 x zinc plated bands/slotted screws
EPS-8	Polyamide banding up to 200mm diameter column (pack of 100)
EPS-14	Polyamide banding up to 350mm diameter column (pack of 100)
EPT-96	Polyamide Banding fixing tool

Dimensions (mm)			
	H	W	D
SD	637	145	
FSD	Please specify height & width of door aperture (min order 10)		
TSD Box	221	152	74
TSD/L Box	308	200	115



TSD/1/L/Supply



TSD/1/L/Supply

STRIMMEX™ Column Protection

Strimmex™ is a High Impact Resistant, UV stabilised, ABS sleeve. It has been designed to protect the vulnerable column base on painted or coated, galvanised and aluminium lighting columns during strimming and grass cutting operations.

Ordering Information	
ST140	Fits 140mm diameter columns
ST168	Fits 168mm diameter columns



The advantages for you:

- ✓ Manufactured using High Impact Resistant UV Stabilised ABS
- ✓ Currently available in two standard sizes to fit 140mm and 168mm diameter columns
- ✓ Easy to assemble – components simply slide together



Column without strimmex™ protection



Column protected by strimmex™

Charles Endirect Ltd is a market leader in the street lighting industry. The company's innovative product range includes:

ISOLATORS & CUT-OUTS

LSI Range
Festive Lighting
Helix Range
Extension Boxes & Gland Plates

FEEDER & DISTRIBUTION PILLARS

Mini Pillars
Midi Pillars
Maxi Pillars
Stainless Steel Pillars
Specialised Architectural Pillars
Pre-wired Distribution

BELISHA EQUIPMENT

Gallery
Light Sources
Globes
Accessories

ENERGY SAVING

Power Switches
Gear Trays
Electronic Ballasts
Control Gear
Energy Management System
LEDs

EARTHING

Cable Glands
CETs
Accessories

MISCELLANEOUS

Passive Safety
Fuses
Surge Protection
Emergency Doors
Strimmex



T +44 (0)1963 828400
F +44 (0)1963 828401
E info@charlesendirect.com
www.charlesendirect.com

Wessex Way
Wincanton Business Park
Wincanton
Somerset BA9 9RR



4090

Charles Endirect Ltd operates a policy of continuous product development and improvement. The facts and information offered in this document are correct at the time of going to press.

©2011 Charles Endirect Ltd