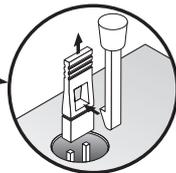
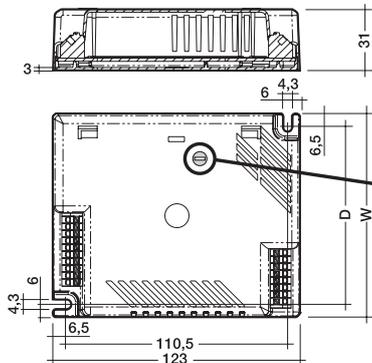
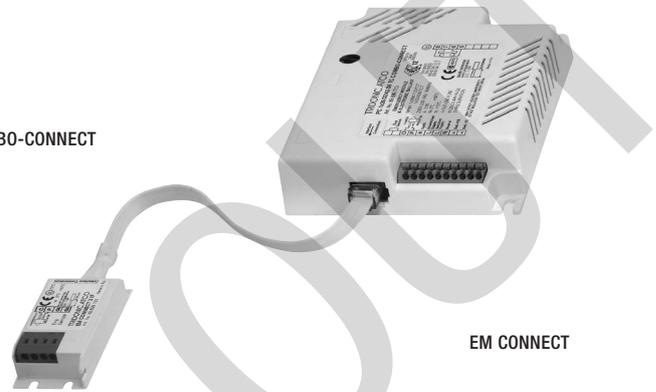


Combined electronic ballasts and emergency modules  
with plug in Selftest or DALI interface

PC CFL COMBO-CONNECT 220–240 V 50/60 Hz



PC CFL COMBO-CONNECT



EM CONNECT

**Description:**

Warm start fixed output, combined electronic high frequency ballasts and emergency lighting modules for compact fluorescent lamps. Each unit has options for plugging in an EM CONNECT interface unit to convert to Selftest or DALI automatic test.

**Features:**

**Operation**

- Amalgam and non amalgam lamps
- Preheat start in normal operation
- Cathode heating during emergency operation with TC-D/T lamps
- AC operation of all lamps

- 1 hour and 3 hour operation
- 1 hour duration selection by means of removable jumper plug
- Deep discharge protection
- Regulated electronic charging circuit
- Standard brightness and ultra high brightness (UHB) indication LED available
- Ballast switching with DALI command

**Easy to Use**

- Lightweight one piece unit
- Small size
- Simplified wiring
- No compatibility issues
- Push wire terminals
- Easy plug in for conversion to Selftest or DALI automatic testing

- Remote battery pack units

**Safe and Reliable**

- Complies with European Standards:
  - EN 55015: 2006 + A1: 2007 (EMC/Emitted RFI)
  - EN 61547 (EMC/Immunity)
  - EN 61000.3.2 (EMC/Supply Harmonics)
  - EN 61347-2-7 (Safety)
  - EN 61347-2-3 (Safety)
  - EN 60925 (Performance)
  - EN 60929 (Performance)
- in accordance with EN 60598-2-22
- in accordance with EN 50172 pr IEC 62034
- ENEC approved. CE marked

**PC CFL COMBO-CONNECT**

Lamp		Ballast														
type	watt-	type	article	width	fixing	weight	circuit	lamp	mains	$\lambda$	max. case	emergency	normal	accu 3h	accu 1h	
age		number	W	centres		power	power	current	(ca.)	temperature	BLF	BLF	4.0 Ah NiCd	1.5 Ah NiCd	Cs cells	
W			mm	D mm	kg	W	W	A	(ca.)	tc °C			D cells	2.0 Ah NiMH	Cs cells	
TC-DEL/TEL	18	PC 1x18-4 TC COMBO-CONNECT	89899840	102	89.5	0.15	24	18	0.11	0.95	70	0.15/0.18	> 0.95	4 x accu	4 x accu	
TC-DEL/TEL	2x18	PC 2x18-4 TC COMBO-CONNECT	89899843	102	89.5	0.22	44	2x18	0.21	0.95	70	0.15/0.18	> 0.95	4 x accu	4 x accu	
TC-DEL/TEL	26	PC 1x26/32/42-6 TC COMBO-CONNECT	89899841	102	89.5	0.15	32	26	0.15	0.95	70	0.11/0.10	> 0.95	6 x accu	6 x accu	
TC-DEL/TEL	2x26	PC 2x26-5 TC COMBO-CONNECT	89899844	102	89.5	0.22	60	2x26	0.28	0.95	70	0.11/0.14	> 0.95	5 x accu	5 x accu	
TC-TEL	32	PC 1x26/32/42-6 TC COMBO-CONNECT	89899841	102	89.5	0.15	38	32	0.18	0.95	70	0.095	> 0.95	6 x accu	6 x accu	
TC-TEL	2x32	PC 2x32/42-6 TC COMBO-CONNECT	89899845	102	89.5	0.22	75	2x32	0.35	0.95	80	0.095	> 0.95	6 x accu	6 x accu	
TC-TEL	42	PC 1x26/32/42-6 TC COMBO-CONNECT	89899841	102	89.5	0.15	50	42	0.24	0.95	70	0.075	> 0.95	6 x accu	6 x accu	
TC-TEL	2x42	PC 2x32/42-6 TC COMBO-CONNECT	89899845	102	89.5	0.22	100	2x42	0.47	0.95	80	0.075	> 0.95	6 x accu	6 x accu	
TC-DD	28	PC 1x28-34 DD COMBO-CONNECT *	89899776	102	89.5	0.15	26	17	0.12	0.95	75	0.120	0.75	4 x accu	NA	
TC-DD	28	PC 1x28-34 HO DD COMBO-CONNECT *	89899777	102	89.5	0.15	34	25	0.16	0.95	70	0.120	> 0.95	4 x accu	NA	
TC-DD	38	PC 1x38-35 DD COMBO-CONNECT *	89899779	102	89.5	0.15	44	35	0.20	0.95	70	0.090	> 0.95	5 x accu	NA	

Note: remove link and select correct accu for 1 hour operation

\* 3 hour only - no 1 hour option

**Combined electronic ballasts and emergency modules with plug in Selftest or DALI interface**

**Technical data:**

Ambient temperature range 5 °C to +50 °C  
Maximum case temperature (tc) see tables.

Ingress Protection IP20  
Vibration test IEC 60068-2-64 Fh  
Bump test IEC 60068-2-29 Eb  
Humidity IEC 60068-2-30  
Flash Testing not recommended

High Voltage Insulation Testing (no flashover or breakdown must occur):  
Up to 500 V DC between the phase and neutral conductors connected together and the earth. Batteries must be disconnected during storage of luminaires. It is also recommended that batteries are only connected after installation is completed.

**Restarting after lamp replacement:**

Note: Before servicing luminaires the mains supply should always be disconnected.

If faulty lamps are changed with the mains connected they will restart automatically provided an interval of 2 seconds is left after removal.

**Lamp starting (normal operation):**

Type of start: Pre-heat  
Starting time: 2 seconds  
Number of starts: circa 20,000

type	article number	
LED EM green	89899605	for non auto test
LED EM green UHB	89899756	for non auto test
LED EM bi-colour	89899720	for selftest or DALI
LED EM bi-colour UHB	89899753	for selftest or DALI

**Mechanical details:**

Case manufactured from polycarbonate.

LED charge indicator

- Bi-colour for self test and PRO DALI  
green for standard test
- Mounting hole 6.5 mm dia
- Length of LED lead (Bezel supplied fitted to LED)  
green: 750 mm  
Bi colour: 1000 mm

Battery packs (Pack-NiCd)

- Polycarbonate case
- 1.0 m integral double insulated lead
- 1.0 mm<sup>2</sup> solid cable

To be connected to suitable strain relieved terminal block in luminaire or suitable polarised plug/socket for connection to luminaire.

Termination

9 mm semi-stripped insulation with protective tape.

Battery NiCd (high temperature)	type	number of cells	article number	L x W x H mm	weight g
Pack-NiCd 3D	Remote pack 4.0 Ah	3	89899672	216 x 70 x 35.5	570
Pack-NiCd 4D	Remote pack 4.0 Ah	4	89899673	216 x 70 x 35.5	700
Pack-NiCd 5D	Remote pack 4.0 Ah	5	89899674	216 x 70 x 35.5	840
Pack-NiCd 6D	Remote pack 4.0 Ah	6	89899675	216 x 70 x 35.5	980
Pack-NiCd 3C	Remote pack 1.5 Ah	3	89899676	216 x 70 x 35.5	320
Pack-NiCd 4C	Remote pack 1.5 Ah	4	89899677	216 x 70 x 35.5	370
Pack-NiCd 5C	Remote pack 1.5 Ah	5	89899678	216 x 70 x 35.5	420
Pack-NiCd 6C	Remote pack 1.5 Ah	6	89899679	216 x 70 x 35.5	470

Other batteries are available

See catalogue or separate datasheet for further information

**Normal operation:**

Rated mains supply voltage 220–240 V  
Mains frequency 50/60 Hz  
Earth leakage current < 0.5 mA  
Minimum lamp starting temperature -15 °C  
Lamp operating frequency > 42 kHz  
Ballast Lumen Factor (BLF) see table  
Light output variation over rated voltage range ± 2 %  
Recharge period 24 hours  
Nominal charge current NiCd D cell (3 h) 220 mA  
Nominal charge current NiCd, NiMH Cs cells (1 h) 110 mA  
Can be used with high brightness charge indicators (LEDs)

**Emergency operation:**

Emergency light output factors (BLF) see table  
Battery design voltage 1.2 V per cell  
Nominal discharge current (3 h, 1 h) 1.1 A  
Minimum lamp starting temperature 5 °C

**Batteries:**

cell case temperature range (to ensure 4 years life) 0 °C → 55 °C  
max. case temperature Pack-NiCd (at tc - point) 45 °C  
Storage life (in temperate conditions) 4 years

**Miniature circuit breakers (MCBs):**

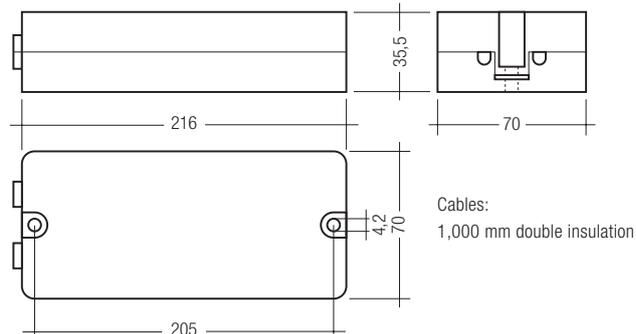
The maximum number of these electronic ballasts that may be used with miniature circuit breakers (MCBs). These quantities are based on single pole MCBs. For multi-pole MCBs derate by 20 %.

Type	Number of electronic ballasts					
	Type C MCB rating			Type B MCB rating		
	10 A	16 A	20 A	10 A	16 A	20 A
PC 1x18 ... TC COMBO-CONNECT	80	80	100	40	40	50
PC 2x18 ... TC COMBO-CONNECT	30	80	80	15	40	40
PC 2x26 ... TC COMBO-CONNECT	30	80	80	15	40	40
PC 1x26/32/42 ... TC COMBO-CONNECT	30	80	80	15	40	40
PC 2x32/42 ... TC COMBO-CONNECT	16	30	44	8	15	22
PC 1x28 ... DD COMBO-CONNECT	24	36	44	12	18	22
PC 1x28 ... HO DD COMBO-CONNECT	24	36	44	12	18	22
PC 1x38 ... DD COMBO-CONNECT	20	30	44	10	15	22

**Pack-NiCd:**



**Pack-NiCd:**



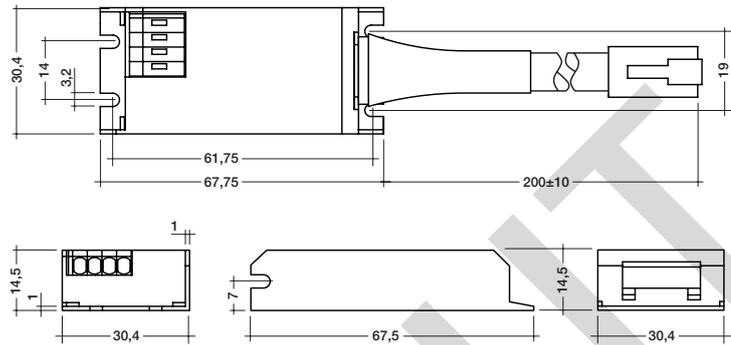
**EM CONNECT:**

EM CONNECT is available to convert the PC COMBO-CONNECT to either Selftest or PRO DALI operation by simply plugging in the unit and making the relevant connections for the LED and DALI bus to the EM CONNECT module.

**Technical data CONNECT-modules:**

connection	RJ45
lead length	200 mm
LED Connections	0.5–1.5 mm <sup>2</sup> solid conductor
DALI bus connections	0.5–1.5 mm <sup>2</sup> solid conductor
max tc temp	70 °C
selftest	
weekly	30 s
yearly	1 h or 3 h duration
DALI	to DALI standard

**EM CONNECT:**



**Selftest CONNECT-modules:**

duration (h)	type	article number
3	EM CONNECT 3ST	89899792
1	EM CONNECT 1ST	89899795

**DALI CONNECT-modules:**

duration (h)	type	article number
3	EM CONNECT 3PRO	89899794
1	EM CONNECT 1PRO	89899797

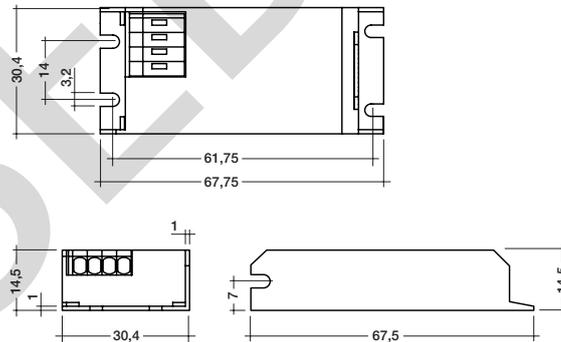
**EM FLT1 filter:**

When the PC COMBO-CONNECT and EM CONNECT is used in a remote application, where the lamp leads and LED indicator leads are routed together in close proximity, it is possible to have electrical interference picked up in the indicator leads. Under certain conditions this interference can cause a lock-up of the EM CONNECT micro-controller.

To overcome this problem in such applications it is necessary to fit the filter EM FLT1 between the indicator LED and the EM CONNECT unit. To be effective the filter must be connected close to the EM CONNECT module.

For further information please contact [TridonicAtco](mailto:TridonicAtco).

**EM FLT1 filter:**



**Technical data:**

Push wire terminals 0.5–1.5 mm<sup>2</sup> solid conductor

product	article number
EM FLT1	89899942

