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
- Simplified wiring
- No compatibility issues
- Push wire terminals
- Easy plug in for conversion to Selftest or DALI automatic testing

Safe and Reliable
- Complies with European Standards:
  - 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

Remote battery pack units

PC CFL COMBO-CONNECT

Table:

<table>
<thead>
<tr>
<th>TC-DEL/TEL</th>
<th>Lamp type</th>
<th>Article number</th>
<th>W</th>
<th>D</th>
<th>H</th>
<th>fixing</th>
<th>weight</th>
<th>weight</th>
<th>W</th>
<th>circuit</th>
<th>W</th>
<th>lamp type</th>
<th>mains</th>
<th>max. case</th>
<th>Emergency</th>
<th>normal</th>
<th>accu 3h</th>
<th>accu 1h</th>
<th>accu 1h</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-TEL/DEL</td>
<td>18</td>
<td>PC 1x18-4 TC COMBO-CONNECT</td>
<td>89899840</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>24</td>
<td>18</td>
<td>0.11</td>
<td>0.95</td>
<td>70</td>
<td>0.15/0.18</td>
<td>&gt; 0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>2x18</td>
<td>PC 2x18-4 TC COMBO-CONNECT</td>
<td>89899843</td>
<td>102</td>
<td>89.5</td>
<td>0.22</td>
<td>44</td>
<td>2x18</td>
<td>0.21</td>
<td>0.95</td>
<td>70</td>
<td>0.15/0.18</td>
<td>&gt; 0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>2x26</td>
<td>PC 2x26-5 TC COMBO-CONNECT</td>
<td>89899844</td>
<td>102</td>
<td>89.5</td>
<td>0.22</td>
<td>60</td>
<td>2x26</td>
<td>0.28</td>
<td>0.95</td>
<td>70</td>
<td>0.11/0.14</td>
<td>&gt; 0.95</td>
<td>5 x accu</td>
<td>5 x accu</td>
<td>0.95</td>
<td>5</td>
<td>5 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>3x26</td>
<td>PC 3x26/32-42-6 TC COMBO-CONNECT</td>
<td>89899841</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>38</td>
<td>32</td>
<td>0.18</td>
<td>0.95</td>
<td>70</td>
<td>0.095</td>
<td>&gt; 0.95</td>
<td>6 x accu</td>
<td>6 x accu</td>
<td>0.95</td>
<td>5</td>
<td>6 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>42</td>
<td>PC 4x26/32-42-6 TC COMBO-CONNECT</td>
<td>89899845</td>
<td>102</td>
<td>89.5</td>
<td>0.22</td>
<td>75</td>
<td>2x32</td>
<td>0.35</td>
<td>0.95</td>
<td>80</td>
<td>0.085</td>
<td>&gt; 0.95</td>
<td>6 x accu</td>
<td>6 x accu</td>
<td>0.95</td>
<td>5</td>
<td>6 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x26</td>
<td>PC 4x26-56 TC COMBO-CONNECT</td>
<td>89899846</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>50</td>
<td>42</td>
<td>0.24</td>
<td>0.95</td>
<td>70</td>
<td>0.075</td>
<td>&gt; 0.95</td>
<td>6 x accu</td>
<td>6 x accu</td>
<td>0.95</td>
<td>5</td>
<td>6 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x36</td>
<td>PC 4x36-56 TC COMBO-CONNECT</td>
<td>89899847</td>
<td>102</td>
<td>89.5</td>
<td>0.22</td>
<td>100</td>
<td>2x42</td>
<td>0.47</td>
<td>0.95</td>
<td>80</td>
<td>0.075</td>
<td>&gt; 0.95</td>
<td>6 x accu</td>
<td>6 x accu</td>
<td>0.95</td>
<td>5</td>
<td>6 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x42</td>
<td>PC 4x42-6 TC COMBO-CONNECT</td>
<td>89899848</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>26</td>
<td>17</td>
<td>0.12</td>
<td>0.95</td>
<td>75</td>
<td>0.120</td>
<td>&gt; 0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x48</td>
<td>PC 4x48-6 TC COMBO-CONNECT</td>
<td>89899849</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>34</td>
<td>25</td>
<td>0.16</td>
<td>0.95</td>
<td>70</td>
<td>0.120</td>
<td>&gt; 0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x54</td>
<td>PC 4x54-6 TC COMBO-CONNECT</td>
<td>89899850</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>44</td>
<td>35</td>
<td>0.20</td>
<td>0.95</td>
<td>70</td>
<td>0.090</td>
<td>&gt;0.95</td>
<td>5 x accu</td>
<td>NA</td>
<td>0.95</td>
<td>5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x60</td>
<td>PC 4x60-6 TC COMBO-CONNECT</td>
<td>89899851</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>54</td>
<td>45</td>
<td>0.24</td>
<td>0.95</td>
<td>70</td>
<td>0.100</td>
<td>&gt;0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x66</td>
<td>PC 4x66-6 TC COMBO-CONNECT</td>
<td>89899852</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>64</td>
<td>55</td>
<td>0.28</td>
<td>0.95</td>
<td>70</td>
<td>0.100</td>
<td>&gt;0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
<tr>
<td>TC-TEL/DEL</td>
<td>4x72</td>
<td>PC 4x72-6 TC COMBO-CONNECT</td>
<td>89899853</td>
<td>102</td>
<td>89.5</td>
<td>0.15</td>
<td>74</td>
<td>65</td>
<td>0.32</td>
<td>0.95</td>
<td>70</td>
<td>0.100</td>
<td>&gt;0.95</td>
<td>4 x accu</td>
<td>4 x accu</td>
<td>0.95</td>
<td>5</td>
<td>4 x accu</td>
<td></td>
</tr>
</tbody>
</table>

Note: remove link and select correct accu for 1 hour operation
* 3 hour only - no 1 hour operation

Data sheet 07/08-540-4. We reserve the right to make technical changes without prior notice.

TRIDONIC

RoHS
Phased out

Data Pack-NiCd 5C
Pack-NiCd 6C
Pack-NiCd 3C
Pack-NiCd 6D
Pack-NiCd 5D
(Pack-NiCd) (high temperature)

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

Termination
9 mm semi-stripped insulation with protective tape.

Battery NiCd:

Power NiCd

Other batteries are available
See catalogue or separate datasheet for further information

Normal operation:
Rated mains supply voltage
500–240 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 current charge NiCd D cell (3 h)
220 mA
Nominal current charge 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
(1 h) 5 °C to 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 %.

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 mm² solid conductor
- DALI bus connections: 0.5–1.5 mm² solid conductor
- max tc temp: 70 °C
- selftest:
  - weekly: 30 s
  - yearly: 1 h or 3 h duration
- DALI: to DALI standard

Selftest CONNECT-modules:

<table>
<thead>
<tr>
<th>duration (h)</th>
<th>type</th>
<th>article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>EM CONNECT 3ST</td>
<td>89899792</td>
</tr>
<tr>
<td>1</td>
<td>EM CONNECT 1ST</td>
<td>89899795</td>
</tr>
</tbody>
</table>

DALI CONNECT-modules:

<table>
<thead>
<tr>
<th>duration (h)</th>
<th>type</th>
<th>article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>EM CONNECT 3PRO</td>
<td>98899794</td>
</tr>
<tr>
<td>1</td>
<td>EM CONNECT 1PRO</td>
<td>98899797</td>
</tr>
</tbody>
</table>

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 Tridonic Atco.

Technical data:
Push wire terminals 0.5–1.5 mm² solid conductor

<table>
<thead>
<tr>
<th>product</th>
<th>article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM FLT1</td>
<td>89899342</td>
</tr>
</tbody>
</table>
Combined electronic ballasts and emergency modules
with plug in Selftest or DALI interface

Electrical connections:
A functional earth can be connected for improved EMC performance.

Terminal block type:
Push wire only with release mechanism

Terminal block capacity
0.5 to 1.5 mm² solid conductor

Wire strip length:
8.5 to 9.5 mm

EM CONNECT to be connected via RJ45 socket after plastic gateways have been removed. Gateways must not be removed unless EM CONNECT unit is installed.

Green LED indicator should be connected to the PC CFL COMBO-CONNECT when being used in manual test mode without the plug in EM CONNECT module.

Bi-colour LED should be connected to the EM CONNECT unit when this is used for Selftest or Addressable test applications.

Keep all leads as short as possible, maximum length 0.5 m

Wiring instructions:
The LED and test switch wiring should be routed separately and kept as far away as possible from the high frequency lamp leads to avoid coupling.

Batteries:
Batteries must be disconnected for servicing. Facility must be provided in the luminaire.
It is recommended that battery leads are not cut as this could result in a hazardous condition due to short circuit batteries.
If shorter leads are required great care should be taken that no shorting occurs.
Batteries should only be connected after installation is complete.

Service life:
Service life at maximum case temperature (see table) measured at designated tc point: 50,000 hours.

CE marking:
The combined units are CE marked for compliance with the low voltage directive. Certificates of compliance are available to allow luminaires to be CE marked for compliance with the EMC directive.

Packing quantities:
PC CFL COMBO-CONNECT: 25 pieces/carton
LED: 25 pieces/bag 200 pieces/carton
Pack-NiCd: 10 pieces per carton
EM CONNECT: 25 pieces/carton
EM FLT1: 25 pieces/carton

Note: the connection for the LED at the PC CFL COMBO-CONNECT is not used in conjunction with the EM CONNECT module.