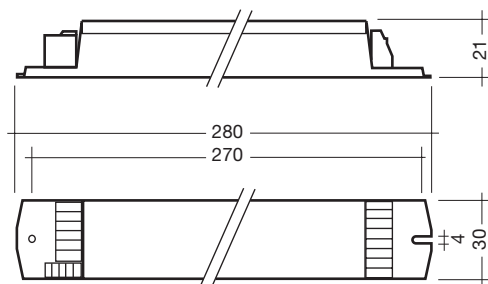


## EM BASIC Ip 220–240 V 50/60 Hz



- low-profile cross-section (21x30 mm)
- 5 pole technology
- NiCd or NiMh battery options
- 10-15 hours accu recharge time
- 3-hour or 1-hour operation
- AC operation of lamps
- lamp warmstart in emergency operation
- permanent cathode heating during emergency operation
- boost starting facility for all lamps
- deep discharge protection

- electronic multilevel charging system
- for use with HF ballasts
- average service life 50,000 hours (under rated conditions with a failure rate  $\leq 10\%$ ; average failure rate  $\leq 0.2\%$  per 1,000 hours)

### Batteries:

- NiCd, NiMh
- D or Cs cells
- high temperature cells
- spade terminals for easy connection

**Packaging:**  
**EM BASIC Ip**  
box of 25

**LED**  
25 pieces/bag

**Accu**  
box of 25

**Test switch**  
25 pieces/bag  
box of 200

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
EN 601347-2-7  
in accordance  
with EN 60598-2-22  
EN 60925  
EN 61000-3-2  
EN 61547  
in accordance  
with EN 50172  
IEC 60068-2-6  
IEC 60068-2-29  
IEC 60068-2-30

### EM BASIC Ip 3 h duration – NiCd 4.0 Ah D cells or NiMh 4.0 Ah Cs cells

type	article number	number of cells
EM 34 BASIC Ip	89899761	4
EM 35 BASIC Ip	89899762	5
EM 36 BASIC Ip	89899763	6

### EM BASIC Ip 1 h duration standard BLF – NiCd 1.5 Ah Cs cells or NiMh 2.0 Ah Cs cells

type	article number	number of cells
EM 14 BASIC Ip	89899764	4
EM 15 BASIC Ip	89899765	5
EM 16 BASIC Ip	89899766	6

NiCd 4.0 Ah D cells	type	number of cells	article number
Accu-NiCd 4A	stick	4	898995961
Accu-NiCd 4B	side by side	4	898995977
Accu-NiCd 4C	stick + stick	2 + 2	898995978
Accu-NiCd 5A	stick	5	898995973
Accu-NiCd 5B	stick + stick	3 + 2	898995962
Accu-NiCd 6A	stick + stick	3 + 3	898995963

NiMh 4.0 Ah Cs cells	type	number of cells	article number
Accu-NiMh C 4A	stick	4	89899850
Accu-NiMh C 5A	stick	5	89899851
Accu-NiMh C 6A	stick	6	89899852
Accu-NiMh C 6C	stick + stick	3 + 3	89899853

NiCd 1.5 Ah Cs cells	type	number of cells	article number
Accu-NiCd C 4A	stick	4	89899692
Accu-NiCd C 4B *	side by side	4	89899693
Accu-NiCd C 4C *	stick + stick	2 + 2	89899694
Accu-NiCd C 5A	stick	5	89899695
Accu-NiCd C 5B *	side by side	5	89899696
Accu-NiCd C 5C *	stick + stick	3 + 2	89899697
Accu-NiCd C 6A	stick	6	89899698
Accu-NiCd C 6C	stick + stick	3 + 3	89899699

NiMh 2.0 Ah Cs cells	type	number of cells	article number
Accu-NiMh C 4A	stick	4	89899700
Accu-NiMh C 4B *	side by side	4	89899701
Accu-NiMh C 4C *	stick + stick	2 + 2	89899702
Accu-NiMh C 5A	stick	5	89899703
Accu-NiMh C 5B *	side by side	5	89899704
Accu-NiMh C 5C *	stick + stick	3 + 2	89899705
Accu-NiMh C 6A	stick	6	89899706
Accu-NiMh C 6C	stick + stick	3 + 3	89899707

\* on request

### Test switch

An optional test switch can be wired to the EM BASIC Ip. This can be used to check local operation of the luminaire.

type	article number
Test switch EM 2	89805277

### Status indication

A green LED indicates that charging current is flowing into the battery.

type	article number
LED EM green	89899605
LED EM green, UHB	89899756

## Low profile emergency lighting modules

### T5, T8, TC-DD, TC-F, TC-L, TC-SEL, TC-DEL, TC-TEL, T5c linear and compact lamps

Technical data EM BASIC lp:	3 h	1 h
rated mains supply voltage	220-240 V	220-240 V
mains frequency	50/60 Hz	50/60 Hz
mains supply current	60 mA max.	60 mA max.
mains supply power	< 10.0 W	< 10.0 W
overvoltage protection	320 V for 1 h	320 V for 1 h
maximum operating voltage U-OUT of the ballast used	460 V	460 V
recharge period	15 h	10 h
discharge current	1.1 A	1.1 A
charge current		
initial	330 mA	130 mA
fast	330 mA	210 mA
trickle	130 mA	50 mA
earth leakage current	< 0.5 mA	< 0.5 mA
ambient temperature range	-5 °C → +60 °C	-5 °C → +60 °C
max. case temperature tc	70 °C	70 °C
mains change over voltage	in accordance with EN 60598-2-22	in accordance with EN 60598-2-22
min. lamp starting temperature (emergency operation)	-5 °C	-5 °C
ingress protection	IP 20	IP 20
safety class	1	1
boost starting time	55 sec.	55 sec.

### Emergency light output factors (BLF) in %

Type	3 hours			1 hour		
	EM 34 BASIC LP	EM 35 BASIC LP	EM 36 BASIC LP	EM 14 BASIC LP	EM 15 BASIC LP	EM 16 BASIC LP
TC-DD 10	37			37		
16	25			25		
21	19			19		
28	14			14		
38			10			10
55			4			4
TC-SEL 5	40			40		
7	39			39		
9	39			39		
11	34			34		
TC-DEL 10	31			31		
13	26			26		
18	21			21		
26	14			14		
TC-TEL 18	21			21		
26	14			14		
32		11			11	
42			7			7
57			5			5
TC-F 18	18			18		
24		12			12	
36		11			11	
TC-L 18	18			18		
24		12			12	
36		11			11	
40		5			5	
55			6			6
T5 FH 14	24			24		
21		16			16	
28			14			14
35			12			12
T5 FQ 24	13			13		
39			8			8
49			6			6
54			6			6
80			5			5
T5 C 22	14			14		
40			7			7
55			7			7
T5 4	38			38		
6	43			43		
8	40			40		
13	27			27		
T8 15	20			20		
18	16			16		
30	12			12		
36	10			10		
38		10			10	
58		8			8	
70			6			6

#### Technical data Accu NiCd:

case temperature range	0 °C → +55 °C
to ensure 4 years design life	
storage life in temperate conditions	4 years
battery voltage per cell	1.2 V
capacity D	4.0 Ah
capacity Cs	1.5 Ah

#### Technical data Accu NiMh 4.0 Ah:

case temperature range	0 °C → +50 °C
to ensure 4 years design life	
storage life in temperate conditions	4 years
battery voltage per cell	1.2 V
capacity	4.0 Ah

#### Technical data Accu NiMh 2.0 Ah:

case temperature range	0 °C → +55 °C
to ensure 4 years design life	
storage life in temperate conditions	4 years
battery voltage per cell	1.2 V
capacity	2.0 Ah

#### Service life

Average service life 50,000 hours under rated conditions with a failure rate of less than 10%.  
Average failure rate of 0.2% per 1000 operating hours.

### Mechanical details:

Channel manufactured from galvanised steel.  
Cover manufactured from white pre-coated steel.

LED status indicator

- Green
- Mounting hole 6.5 mm dia
- Lead length 1000 mm

Test switch

- Mounting hole 7.0 mm dia
- Lead length 550 mm

Battery leads

- Quantity: 1 red and 1 black
- Length: 1300 mm
- Wire type: 0.5 mm<sup>2</sup> solid conductor
- Insulation rating: 90 °C

Battery end termination

Push on 4.8 mm receptacle to suit battery spade fitted with insulating cover

Module end termination

8.0 mm stripped insulation

Two-piece batteries are supplied with a 200 mm lead with 4.8 mm receptacle at each end and insulating covers to connect the separate sticks together.

### Batteries:

Connection method: 4.8 x 0.5 mm spade tag welded to end of cell

For stick packs this connection is accessible after the battery caps have been fitted.

To inhibit inverter operation disconnect the batteries by removing the connector from the battery spade tag.

For battery data see separate data sheet.

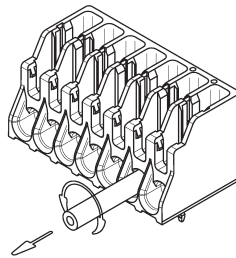
### Electrical connections:

An earthed starting aid is recommended. The module should be earthed by the fixings used to attach it to the luminaire.

### Wiring:

#### Lamp/ballast/supply

wire preparation:  
0.5–0.75 □



Loosen wire through twisting and pulling

### Wiring guidelines

To ensure that a luminaire containing high frequency emergency units complies with EN 55015 for radio frequency conducted interference in both normal and emergency mode it is essential to follow good practice in the wiring layout.

- Within the luminaire the switched and unswitched 50 Hz supply wiring must be routed as short as possible and be kept as far away as possible from the lamp leads. This means, for example, in a linear T8 or T5 luminaire the mains wiring should be routed along one side of the luminaire body, while the wires to the emergency lamp from the emergency module are routed along the other side.
- The high frequency emergency lamp wiring contains "hot" leads at pins 1 and 6, which have high voltage to earth. These should be kept as short as possible and separated from other wiring to minimise coupling. They also have a restriction on capacitance to other wiring and earth of 100 pF, which must be observed to ensure good lamp starting.

### IDC interface

- solid wire with a cross section of 0.5 mm<sup>2</sup> according to the specification from WAGO
- alternatively a flexible lead with a cross section of 0.75 mm<sup>2</sup>

### Horizontal interface

- solid wire with a cross section of 0.5–0.75 mm<sup>2</sup> according to the specification from WAGO
- solid wire with a cross section of 1.0 mm<sup>2</sup> with an insulation diameter up to 2.5 mm
- strip 9 mm of insulation from the cables
- loosen wire through twisting and pulling

### Batteries/LED/Test switch

push terminal with button release: 0.5 mm<sup>2</sup>  
6.5 mm strip

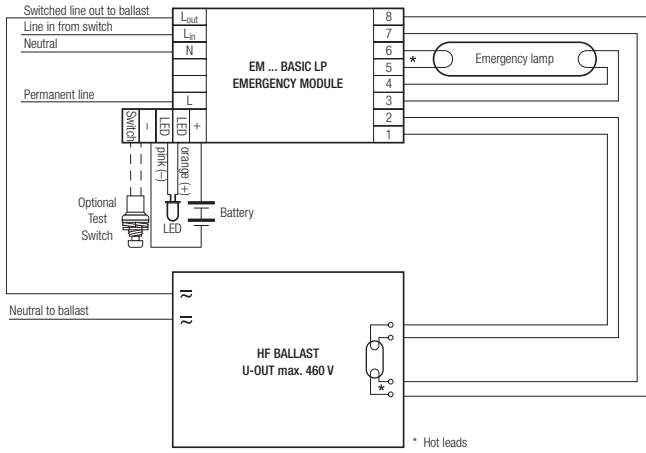
### Maximum lamp lead capacitance

terminals 5 and 6 (\* hot leads) 100 pF <sup>1)</sup>  
terminals 3 and 4 200 pF <sup>1)</sup>

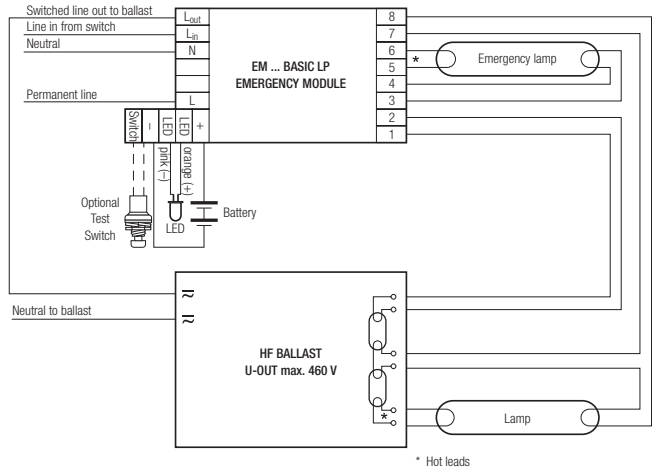
<sup>1)</sup> Note: care should be taken not to exceed the total maximum lamp lead capacitance for HF ballast. Leads should always be kept as short as possible.

- With an earth connection of the metal case of the emergency module the noise suppression can be further improved. The wiring of the earth should be kept as short as possible.
- Through wiring may affect the emc performance of the luminaire.
- With the use of the fifth pole possible compatibility problems between the products can be prevented. Depending on the luminaire wiring the radio suppression in the emergency mode of operation can be further improved.
- Capacitive loading limits of lamp leads must not be exceeded. Note the capacitance of the emergency lamp leads adds to the capacitance of the leads from the ballast to the EM BASIC Ip module when considering ballast loading.
- 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.

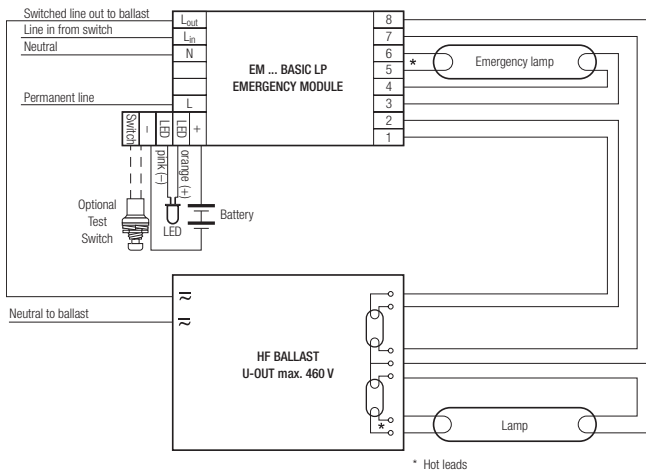
**EM ... BASIC LP emergency module wiring diagrams**  
 Not for use with magnetic ballasts and switch start circuits



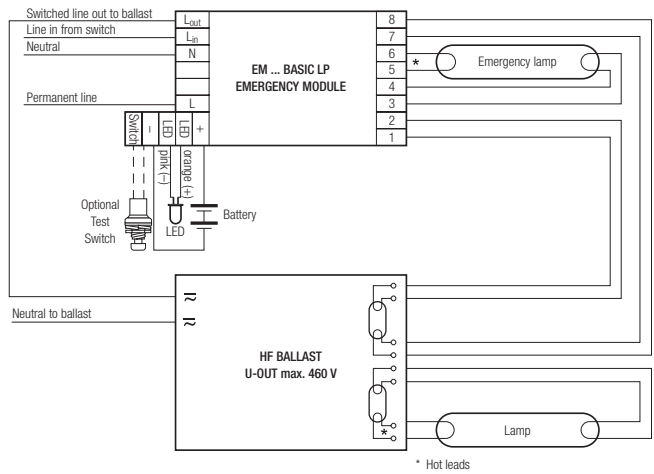
Wiring diagram for single lamp high frequency ballasts



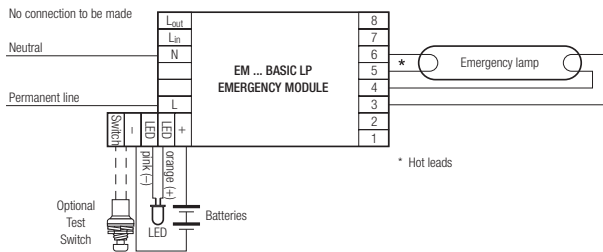
Wiring diagram for twin lamp high frequency ballasts with 6 terminals



Wiring diagram for twin lamp high frequency ballasts with 7 terminals



Wiring diagram for twin lamp high frequency ballasts with 8 terminals



Wiring diagram for non-maintained operation

**Note:**  
 All hot leads normally marked with an \* should be kept as short as possible. For comprehensive wiring diagrams and instructions consult the TridonicAtco website [www.tridonicatco.com](http://www.tridonicatco.com)