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TECHNICAL PRODUCT INFORMATION

RELATED DRAWING
DO NOT CHANGE
WITHOUT APPROVAL OF
Ex RESPOSIBLE

HFX T5 &T8

E1003 & E1004

ELECTRONIC BALLAST FOR EX-ENVIRONMENT

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1 Applications

The HFX series of combined electronic ballasts and emergency light inverter for EX-environments are suitable for use in Ex e luminaires.

The HFX-range will be suitable for use in explosive gas athmospheres like :

- Oil Industry	Off- & On-shore Installations, Gas Stations, Fuel Reservoirs, Oil Tankers
- Mining Industry	Mines, Plants, Mills
- Chemical Industry	Production Plants

Lamp End Of Life (EOL) protection according to EN/IEC 60079-7:2006

2 Approvals HFX series

Approvals :

- QAN/QAR	0470 Nemko 01ATEX452Q/ NO/NEM/QAR08.0001/04
- Ex protection Code	Ex II 2 G Ex eb mb IIC T5
- NEMKO Certificate :	IECEx NEM09.0002U
- ATEX no.	Nemko 09ATEX1103U
- ULBR/INMETRO	11/UL-BRHZ 0020U

Reference standards :

- IEC 60079-0	2007
- IEC 60079-7	2006
- IEC 60079-18	2004
- EN 60079-0	2009
- EN 60079-7	2007
- EN 60079-18	2009
- ABNT NBR IEC 60079-0	2008-11
- ABNT NBR IEC 60079-7	2008-02
- ABNT NBR IEC 60079-18	2007-12

In accordance with:

- IEC 61347-2-3	2000+A1:2004
- EN50028	
- EN60928	
- EN55015: 2006	
- INMETRO Portaria 179	2010-05-18

3 HFX Technical data

All version meets the CELMA Class: EEI A2. Powerfactor measured at frequency of 50Hz.

3.1 EX-Electronic Ballast Product range

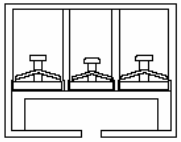
Model	Article number	Voltage 50-60Hz AC	Power factor λ	Rated Current A	Ta °C	Tc °C	Lamps W	Dimensions (mm) L	W	H	Weight (kg)
E1003 220-250V											
HFX 118 E1003	16118	220-250VAC	0,95	0,07-0,08	-30 to +75	75	1x18	255	45	36	0,57
HFX 218 E1003	16218	220-250VAC 220-250VDC	0,96	0,14-0,16	-30 to +75	85	2x18	255	45	36	0,57
HFX 136 E1003	16136	220-250VAC	0,96	0,14-0,16	-30 to +75	83	1x36	255	45	36	0,57
HFX 236 E1003	16236	220-250VAC 220-250VDC	0,96	0,28-0,32	-30 to +75	89	2x36	255	45	36	0,57
HFX 158 E1003	16158	220-250VAC	0,96	0,23-0,27	-30 to +70	91	1x58	255	45	36	0,57
HFX 258 E1003	16258	220-250VAC	0,96	0,45-0,52	-30 to +65	92	2x58	255	45	36	0,57
HFX T5 Multi E1003	16314	220-250VAC	0,96	0,13-0,26	-30 to +70	85	T5 2x14-2x28	255	45	36	0,57
E1004 110-127V											
HFX 118 E1004	17118	110-127VAC	0,96	0,13-0,16	-30 to +60	80	1x18	255	45	36	0,57
HFX 218 E1004	17218	110-127VAC	0,96	0,27-0,32	-30 to +60	80	2x18	255	45	36	0,57
HFX 136 E1004	17136	110-127VAC	0,96	0,27-0,32	-30 to +60	80	1x36	255	45	36	0,57
HFX 236 E1004	17236	110-127VAC	0,96	0,52-0,61	-30 to +60	80	2x36	255	45	36	0,57
HFX 158 E1004	17158	110-127VAC	0,96	0,42-0,52	-30 to +70	85	1x58	255	45	36	0,57
HFX T5 Multi E1004	17414	110-127VAC	0,96	0,24-0,54	-30 to +70	85	T5 2x14-2x28	255	45	36	0,57

EEI=A2 I_k max. 1600A

3.2 Mechanical data HFX-series :

Aluminium housing fastened with 2 screws. Electronics moulded in polyurethane compound inside aluminium profile. Screw connectors.

Length 255mm



Height 36mm

Width 45mm

4 Installations of HFX ballasts

Tc point value must not be exceeded in final installation.
Metal conductor temperatures should be measured in final installation to ensure that no adverse heating effects from neighbouring components (125°C max).

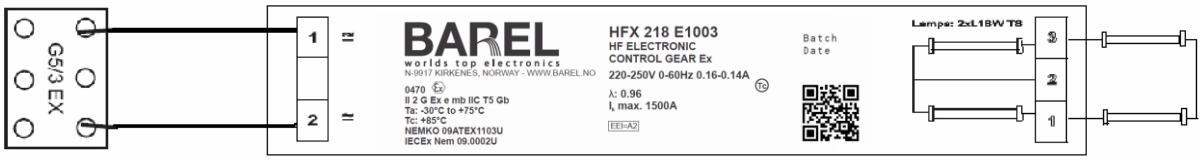
This component does not cause harm or injury when used as specified in these instructions

4.1 Electrical connection

Installation and servicing of the ballast must be done with mains power supply disconnected by an external 2-pole switch (both phases must be off).

Ballast chassis must be connected to ground.
Connect mains supply to input side; 1-L and 2-N.
Connect tubes to output side 1,2 and 3. Connect single tube to 1 and 3, ref ballast label.
Keep tube connection cable 1 short.

Connection when used as replacement for previous E001, E002, E003 and E004 series:



Replacement ballasts for long PCX/HFX are delivered with a connection terminal allowing original mains-supply cables to be used. Connection terminal must be securely fixed.
Connect single tube to output-side 1 and 3.
Connect twin tubes to output-side 1 and 3 if a center-connection is not available. Operation without center-connection can cause a slight decrease in lamp-life if subjected to frequent cold start.

4.2 Cable

Cross sectional area of the cable: 1 – 2,5 mm2 (multi wire).
Terminal torque: 1,5-2,5Nm.
For Aluminium cables; a bi metallic connector should be used to provide a copper connection.
Strip 9 mm (+1 mm) of wire insulation.

4.3 Earth connection

Ballast chassis must be connected to ground.

5 What to do if…

- No light when first connected to the mains:
  - Check that the mains voltage is in the voltage range of the ballast.
  - Check that the screws at the connection terminal are tightened.
  - Check that correct lightsources are connected and that these are ok.
- The lamp(s) lights up, but stop immediately after.
  - Change the tubes with new ones.
  - Check the wires, the contacts and the switches in both sides of the luminaire.
  - Check that the correct lamp type is used. Barel recommend using only high quality fluorescent lamps. T5 lamps are not suitable for frequent cold starting.

If problems with conducted emission during EMC measurements, contact Barel for assistance. Important issues are:

- Keep all wires short.
- Separate lamp wires from mains supply wires
- Ground the ballast through a short wire connection