

ARC 600 & 1200 LED LAMP FOR Ex-ENVIRONMENT



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TECHNICAL PRODUCT INFORMATION

1 Applications

The ARC LED LAMP is designed to replace fluorescent lamps in Ex e luminaires. State of the art LED technology is utilized to increase efficiency and cold-area performance over fluorescent solutions. The LED system is suitable for installation in Ex e enclosures, together with a suitable LED driver like the Barel HFX or HFXE LED.

ARC will be suitable for use in explosive gas atmospheres like:

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

2 Approvals

Approvals :

- | | |
|-----------------------|--|
| - QAN/QAR | 0470 Nemko 01ATEX452Q/
NO/NEM/QAR08.0001/04 |
| - Ex protection Code | Ex II 2 G Ex mb op is IIC T4 |
| - IECEX Certificate : | IECEX PRE 15.0014U |
| - ATEX no. | Presafe 15 ATEX 6296U |
| - BRHZ no. | UL-BR 16.0485U |

Reference standards :

- | | |
|----------------|------|
| - IEC 60079-0 | 2017 |
| - IEC 60079-18 | 2014 |
| - IEC 60079-28 | 2015 |
| - EN 60079-0 | 2012 |
| - EN 60079-18 | 2015 |
| - EN 60079-28 | 2015 |



TECHNICAL PRODUCT INFORMATION

3 Technical data

3.1 Product range

Name	Description	Model	Art	Type	To replace	Color	Input max	Power	Lumen (+/- 10%)	Service temperature	T C	Dimension LxWxH	Weight
ARC	LED lamp	600	11964	ARC 600 840 BG3	2x18W T8	4000K	65V/370mA	25W	2500	-52 to +58°C	80°C	576x61x11mm	630g
			11966	ARC 600 860 BG3		6000K		25W	2800				
		1200	11984	ARC 1200 840 BG3	2x36W T8	4000K	130V/370mA	50W	5000			1136x61x11mm	1250g
			11986	ARC 1200 860 BG3		6000K		50W	5600				
Marking:	Ex II 2G Ex mb op is IIC Gb, Acc to EN/IEC 60079-0, -18, -28												
	Light output, performance and Tc/ temperatures to be tested in actual application.												

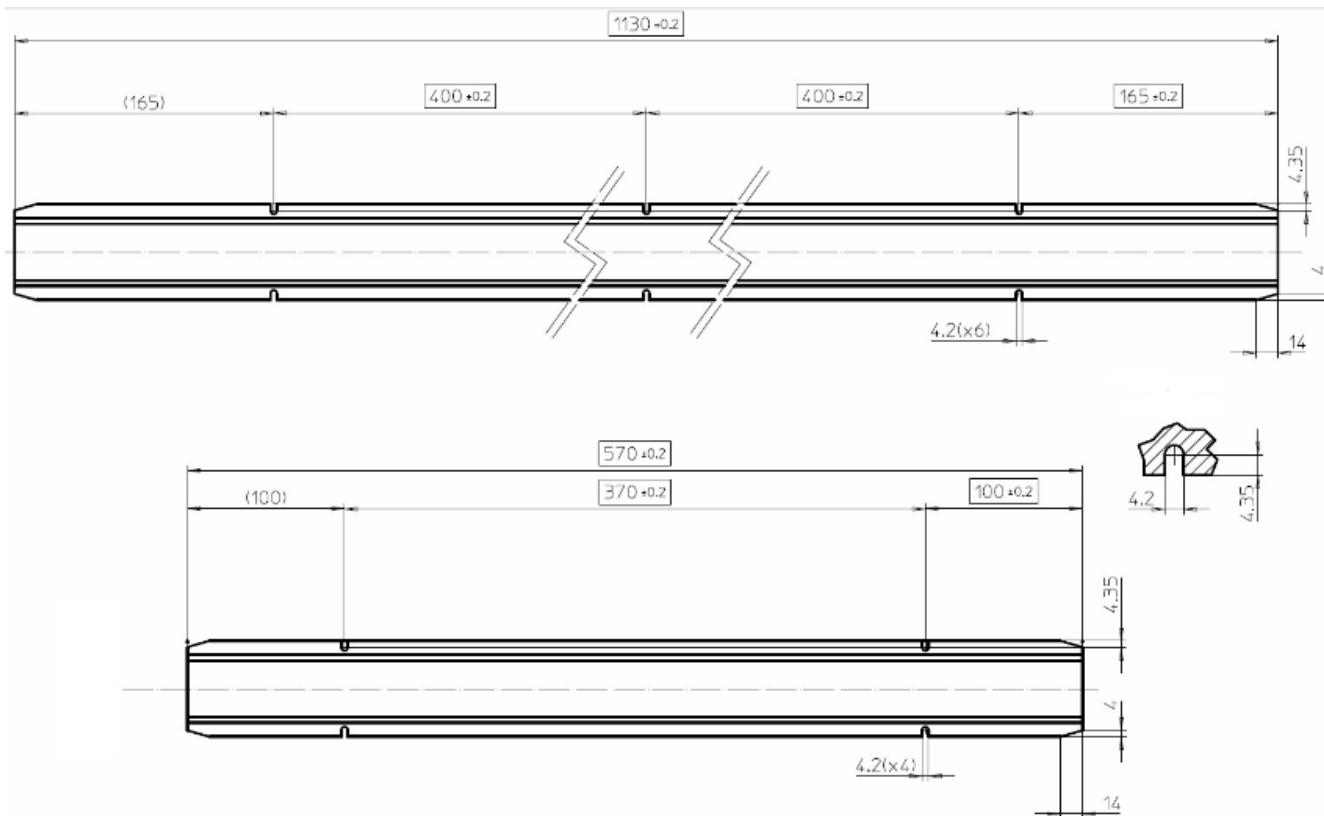


Diffused version (with cover):
Part number with diffuser – add suffix «D», example: 11964D is with diffuser

TECHNICAL PRODUCT INFORMATION

3.2 Mechanical data:

- Aluminum profile to be fastened with screws or other suitable means.
- ARC 600: 576mm x 61mm x 11mm
- ARC 1200: 1136mm x 61mm x 11mm



Barel reserves the right to change technical specifications without further notice

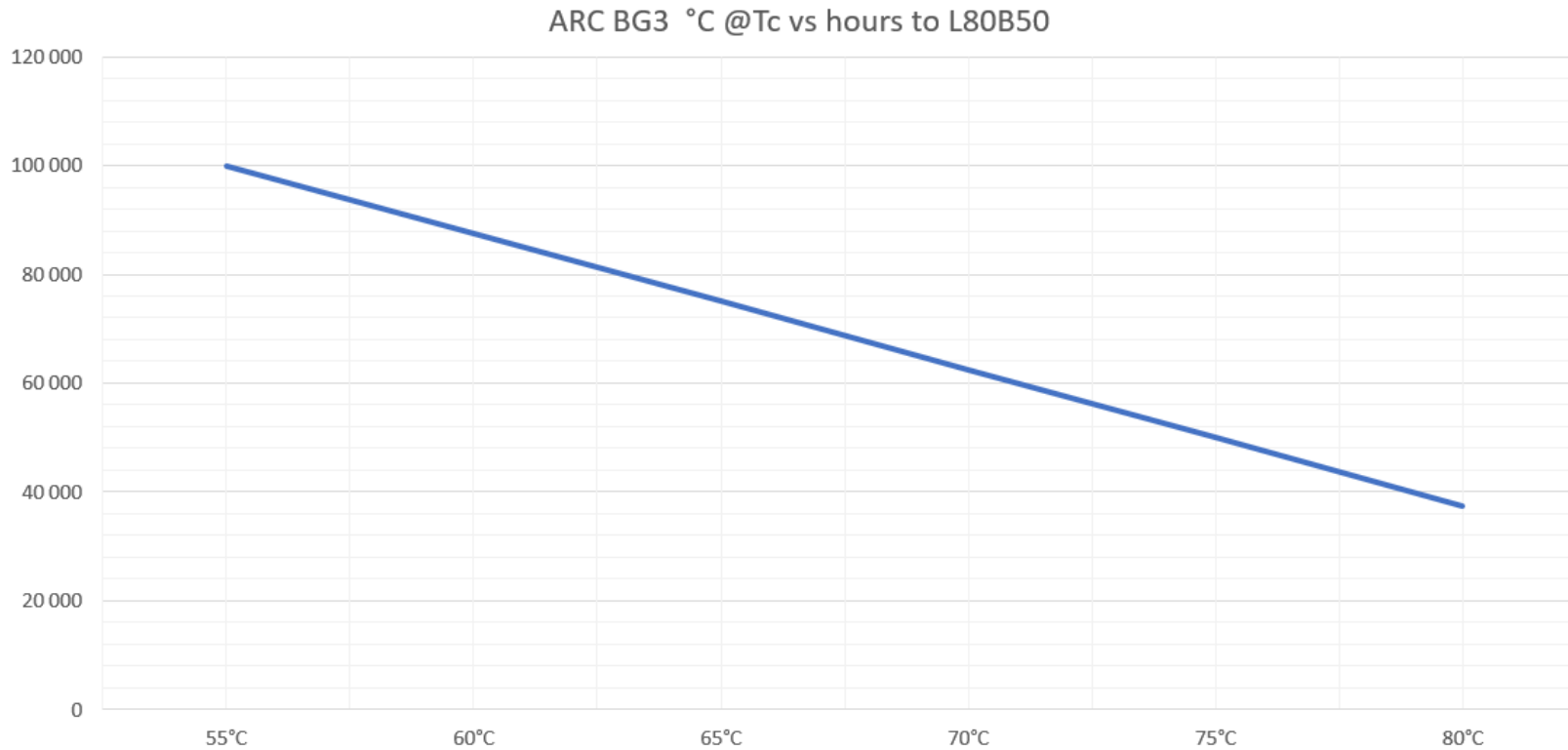
TECHNICAL PRODUCT INFORMATION

3.3 Optical data:

- Light output and performance to be tested in actual application.
- Separate diffuser could be used for glare reduction and light pattern shaping.

3.4 Expected lifetime:

The expected lifetime of ARC to L80B50 exceeds 100.000 hours at Tc <55°C.



TECHNICAL PRODUCT INFORMATION

4 Installation

These components does not cause harm or injury when used as specified in these instructions. If this equipment is not utilised in a manner specified by the manufacturer, the protection by the equipment may be impaired. Wire length: ARC 1200 - 850mm, ARC 600 – 350mm (special length on request)

Do not energize circuit before all components and lamps are connected properly.

In case of no function or malfunction: first de-energize the circuit. Disconnect mains and battery supply before lamps are disconnected.

The LED module must be connected to correct polarity.

4.1 ESD:

ESD (Electro Static Discharge) protective measures should be considered during installation. Connection wires should not come in contact with charged objects before properly connected to HFX/HFXE LED driver.

4.2 Schedule of limitations:

- The ARC LED can be supplied by the LED driver modules models HFX LED and HFXE LED which are covered by certificates Presafe 14 ATEX 5355U and IECEx PRE 14.0039U, or other LED driver with the following ratings:
- Rated current of 370mA
- Rated voltage ARC LED 600 and ARC 1200-2 = 65VDC
- Rated voltage ARC LED 1200 = 130VDC
- The supply circuit must include a protective device that limits the current to 850mA. Or include a fuse with max rated current of 500mA, having corresponding rated voltage and is capable to withstand a prospective short-circuit current of 1500A.
- The ARC LED lamp must be mounted inside an enclosure which is meeting the requirements of a specific type of protection as listed in IEC 60079-0, Cl. 1. E.g. an “Ex e” enclosure.
- The permanently connected supply wires, must be protected and terminated in accordance to one of the specific types of protection as listed in IEC 60079-0, Cl. 1. E.g. use of Ex e terminals inside an “Ex e” enclosure.
- The operating temperature range is: -52°C to 58°C.
- The Tc point of the ARC LED shall not exceed +80°C in normal operation.
- Temperature class and suitable temperature range may be determined in the final application for the end-product. For the listed operating temperature range (-52°C to 58°C):
- Models ARC 600 840 G3 & ARC 600 860 G3 & ARC 1200 840 G3 & ARC 1200 860 G3, achieved compliance of T3 temperature class whereof temperature increase is $\Delta T = 76^{\circ}\text{C}$

TECHNICAL PRODUCT INFORMATION

- All other models achieved compliance of T4 temperature class whereof temperature increase is $\Delta T = 71^{\circ}\text{C}$

4.3 Electrical connection

Connect wires to suitable constant current LED driver. White + and black -.



5 What to do if...

- No light when first connected to the mains:
 - Make sure all components are the correct type and suitable for lamp/driver type, mains supply voltage and frequency range.
 - Make sure all connections are correct.
 - Allow a reset of LED driver.
 - Do not attempt to open or repair these units. ARC should be replaced in case of failure – to avoid premature failure of the other component.

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