



FlowStar – LED tunnel entrance and point-source interior lighting

FlowStar

Tunnel operators are looking for an LED solution for both interior and entrance lighting that delivers cost, safety and availability benefits over the full lifetime of the product. FlowStar's stainless-steel modular build and dedicated LED design provide a long-lasting and efficient LED alternative to conventional HPS lighting. FlowStar can also be combined with our controls and services for the highest levels of performance.

Benefits

- High lumen output
- dedicated tunnel luminaire that can replace HPS entrance lighting
- Long-lasting, highly efficient lighting solution for the whole tunnel
- Easy to install and maintain
- Equipped with Service tag, a QR-based identification system that makes each luminaire uniquely identifiable and provides maintenance, installation and spare part information

Features

- A lifetime solution for both tunnel entrance and interior lighting in combination with service packages
- Designed for maintenance (modular build and glass cover)
- Can be integrated with controls (e.g. TunneLogic) and services for best system performance
- True point-for-point LED alternative to HPS up to 400 W
- For entrance lighting, it can be combined with the FlowLine linear interior luminaire
- Can compete on Total Cost of Ownership with current HPS solutions within the TotalTunnel approach

Application

- Traffic tunnels and underpasses

Specifications

Type	BGB300 (ENTRANCE version) BGB310 (INTERIOR version)	Optical cover	Tempered glass, hard
Light source	Integral LED-module	Material	Housing: stainless steel Heatsink: aluminum Cover: glass, thermally toughened
System power	BGB300: 79 up to 435 W BGB310: 68 up to 370 W	Color	Not painted stainless steel and anodized aluminum
Luminous flux	BGB300: 9,200 up to 50,000 lm BGB310: 8,200 up to 44,000 lm	Connection	Plugs connections or flying lead
Luminaire efficacy	> 100 lm/W	Maintenance	Long lasting sealed units easy and fast to exchange
Correlated Color	4000 K (neutral white, NW)	Installation	Ceiling mounted 6 flange mounting clamps included for fast installation and alignment in the horizontal plane Option for plugs connection for plug and play installation Recommended mounting height: > 4 m
Temperature	5700 K (cool white, CW)	Cable gland	Flying lead versions: M20 Plug and play version: 2 receptacles for DALI (in and out) and 1 receptacle for power in
Color Rendering Index	> 70	Remarks	Separate FlowStar LED units are available (BGB300 and BGB310 with dedicated designations) Separate FlowStar driver units are available (EGB300 and EGB310 with dedicated designations) Separate mounting clamp sets (set of 4 and set of 6 pcs) are available For the versions equipped with connection sockets, cables with matching plugs are available
Lumen maintenance at median useful life* 100000 h	up to L92		
Control gear failure rate at median useful life 100000 h	10%		
Performance Ambient Temperature Tq	+25 °C		
Operating temperature range	-25 to +40 °C		
Driver	Separate (non-self ballasted LED-module)		
Mains voltage	220-240 V / 50-60 Hz		
Dimming	DALI or SDU dimmable		
Optic	Tunnel asymmetrical (DTA) Tunnel counter-beam (DTCB) Tunnel symmetrical (DTS) Tunnel asymmetrical wide beam (DTA-WB) Tunnel symmetrical wide beam (DTS-WB)		

Versions

FlowStar large BGB300/BGB310
tunnel and underpass luminaire



FLOWSTAR MEDIUM - LED
module 35700 lm - LED - Power
supply unit with DALI interface -
Special housing - Distribution
tunnel symmetrical - Flat glass -
148° x 148° - DALI - -



FLOWSTAR SMALL - LED module
21400 lm - LED - Power supply
unit with DALI interface - Special
housing - Distribution tunnel
symmetrical - Flat glass - 148° x
148° - DALI - -



FlowStar large BGB300/BGB310
LED unit



FLOWSTAR MEDIUM - LED
module 35700 lm - LED - - -
Special housing - Distribution
tunnel symmetrical - Flat glass -
148° x 148° - -



FLOWSTAR SMALL - LED module
21400 lm - LED - - - Special
housing - Distribution tunnel
symmetrical - Flat glass - 148° x
148° - -



Accessories

FlowStar EGB300/EGB310 driver
unit

Ordercode 912300023905



FLOWSTAR MEDIUM - LED
module 35700 lm - 4th generation,
screw fixation - Power supply unit
with DALI interface - Special
housing - Dimming via external
communication DALI - Mains
outlet socket and 2 DALI sockets



Ordercode 912300023906

Accessories



FLOWSTAR SMALL – LED module
 21400 lm – 4th generation, screw
 fixation – Power supply unit with
 DALI interface – Special housing –
 Dimming via external
 communication DALI – Mains
 outlet socket and 2 DALI sockets

Ordercode 912300023907,
 912300023908

Approval and Application

Mech. impact protection code	IK08
------------------------------	------

General Information

Luminaire light beam spread	148° x 148°
CE mark	CE mark
Light source color	740 neutral white
Optical cover/lens type	Flat glass
Flammability mark	For mounting on normally flammable surfaces
Light source replaceable	No
Lamp version	4S
Optic type	Distribution symmetrical medium 11

Initial Performance (IEC Compliant)

Init. Corr. Color Temperature	4000 K
Init. Color Rendering Index	>70

Light Technical

Standard tilt angle side entry	0°
Standard tilt angle posttop	0°
Upward light output ratio	0

Mechanical and Housing

Color	Steel
-------	-------

Application Conditions

Order Code	Full Product Name	Maximum dim level
912300023896	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	10%
912300023897	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	10%
912300023898	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	10%
912300023899	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	10%
912300023901	BGB300 LED660--4S/740 SH DSM11	Not applicable
912300023902	BGB301 LED399--4S/740 SH DSM11	Not applicable
912300023903	BGB302 LED239--4S/740 SH DSM11	Not applicable
912300023904	BGB302 LED105--4S/740 SH DSM11	Not applicable

Approval and Application

Order Code	Full Product Name	Surge Protection (Common/Differential)
912300023896	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level
912300023897	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level
912300023898	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level

Order Code	Full Product Name	Surge Protection (Common/Differential)
912300023899	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level
912300023901	BGB300 LED660--4S/740 SH DSM11	-
912300023902	BGB301 LED399--4S/740 SH DSM11	-
912300023903	BGB302 LED239--4S/740 SH DSM11	-

Order Code	Full Product Name	Surge Protection (Common/Differential)
912300023904	BGB302 LED105--4S/740 SH DSM11	-

Controls and Dimming

Order Code	Full Product Name	Dimmable
912300023896	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	Yes
912300023897	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	Yes
912300023898	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	Yes
912300023899	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	Yes

Order Code	Full Product Name	Dimmable
912300023901	BGB300 LED660--4S/740 SH DSM11	No
912300023902	BGB301 LED399--4S/740 SH DSM11	No
912300023903	BGB302 LED239--4S/740 SH DSM11	No
912300023904	BGB302 LED105--4S/740 SH DSM11	No

General Information (1/2)

Order Code	Full Product Name	Driver included	Lamp family code	Number of gear units	Number of light sources
912300023896	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	Yes	LED650	3 units	200 pcs
912300023897	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	Yes	LED399	2 units	120 pcs
912300023898	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	Yes	LED239	1 unit	72 pcs
912300023899	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	Yes	LED105	1 unit	32 pcs

Order Code	Full Product Name	Driver included	Lamp family code	Number of gear units	Number of light sources
912300023901	BGB300 LED660--4S/740 SH DSM11	No	LED650	-	200 pcs
912300023902	BGB301 LED399--4S/740 SH DSM11	No	LED399	-	120 pcs
912300023903	BGB302 LED239--4S/740 SH DSM11	No	LED239	-	72 pcs
912300023904	BGB302 LED105--4S/740 SH DSM11	No	LED105	-	32 pcs

General Information (2/2)

Order Code	Full Product Name	Product Family Code
912300023896	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	BGB300
912300023897	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	BGB301
912300023898	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	BGB302
912300023899	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	BGB302

Order Code	Full Product Name	Product Family Code
912300023901	BGB300 LED660--4S/740 SH DSM11	BGB300
912300023902	BGB301 LED399--4S/740 SH DSM11	BGB301
912300023903	BGB302 LED239--4S/740 SH DSM11	BGB302
912300023904	BGB302 LED105--4S/740 SH DSM11	BGB302

Initial Performance (IEC Compliant)

Order Code	Full Product Name	Initial luminous flux
912300023896	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	54780 lm
912300023897	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	33200 lm
912300023898	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	19920 lm
912300023899	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	8925 lm

Order Code	Full Product Name	Initial luminous flux
912300023901	BGB300 LED660--4S/740 SH DSM11	54780 lm
912300023902	BGB301 LED399--4S/740 SH DSM11	33200 lm
912300023903	BGB302 LED239--4S/740 SH DSM11	19920 lm
912300023904	BGB302 LED105--4S/740 SH DSM11	8925 lm

