



FlowStar – LED tunnel entrance and point-source interior lighting

FlowStar Large

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

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

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Application

- Traffic tunnels and underpasses

Specifications

Type	BGB300 (ENTRANCE version) BGB310 (INTERIOR version)
Light source	Integral LED-module
System power	BGB300: 79 up to 435 W BGB310: 68 up to 370 W
Luminous flux	BGB300: 9,200 up to 50,000 lm BGB310: 8,200 up to 44,000 lm
Luminaire efficacy	> 100 lm/W
Correlated Color	4000 K (neutral white, NW)
Temperature	5700 K (cool white, CW)
Color Rendering Index	> 70
Maintenance of lumen output - L80F10	> 100,000 hours at 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)

Optical cover	Tempered glass, hard
Material	Housing: stainless steel Heatsink: aluminum Cover: glass, thermally toughened
Color	Not painted stainless steel and anodized aluminum
Connection	Plugs connections or flying lead
Maintenance	Long lasting sealed units easy and fast to exchange
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
Cable gland	Flying lead versions: M20 Plug and play version: 2 receptacles for DALI (in and out) and 1 receptacle for power in
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

Versions



FLOWSTAR MEDIUM - LED
module 35,700 lm - LED - Power
supply unit with DALI interface -
Special housing - Distribution
tunnel symmetrical - Flat glass -
148° x 148° - DALI -

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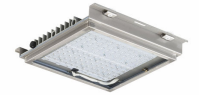
Versions



FLOWSTAR SMALL - LED module
21,400 lm - LED - Power supply
unit with DALI interface - Special
housing - Distribution tunnel
symmetrical - Flat glass - 148° x
148° - DALI -



FLOWSTAR MEDIUM - LED
module 35,700 lm - LED - Special
housing - Distribution tunnel
symmetrical - Flat glass - 148° x
148° -



FLOWSTAR SMALL - LED module
21,400 lm - LED - Special housing
- Distribution tunnel symmetrical -
Flat glass - 148° x 148° -



Accessories



Ordercode 12043600



FLOWSTAR MEDIUM - LED
module 35,700 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 12044300



FLOWSTAR SMALL - LED module
21,400 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

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Approval and Application

Mech. impact protection code IK08

General Information

Luminaire light beam spread 148° x 148°
 CE mark CE mark
 Light source colour 740 neutral white
 Optical cover/lens type FG
 ENEC mark ENEC mark
 Flammability mark F
 Light source replaceable No
 Lamp version 4S

Initial Performance (IEC Compliant)

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

Light Technical

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

Mechanical and Housing

Colour Steel

Application Conditions

Order Code	Full Product Name	Maximum dim level
12035100	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	10%
12036800	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	10%
12037500	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	10%
12038200	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	10%
12039900	BGB300 LED660--4S/740 SH DSM11	Not applicable
12040500	BGB301 LED399--4S/740 SH DSM11	Not applicable
12041200	BGB302 LED239--4S/740 SH DSM11	Not applicable
12042900	BGB302 LED105--4S/740 SH DSM11	Not applicable

Approval and Application

Order Code	Full Product Name	Surge Protection (Common/Differential)
12035100	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level kV
12036800	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level kV
12037500	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level kV

Order Code	Full Product Name	Surge Protection (Common/Differential)
12038200	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	Philips standard surge protection level kV
12039900	BGB300 LED660--4S/740 SH DSM11	- kV
12040500	BGB301 LED399--4S/740 SH DSM11	- kV
12041200	BGB302 LED239--4S/740 SH DSM11	- kV
12042900	BGB302 LED105--4S/740 SH DSM11	- kV

Controls and Dimming

Order Code	Full Product Name	Dimmable
12035100	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	Yes
12036800	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	Yes
12037500	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	Yes
12038200	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	Yes

Order Code	Full Product Name	Dimmable
12039900	BGB300 LED660--4S/740 SH DSM11	No
12040500	BGB301 LED399--4S/740 SH DSM11	No
12041200	BGB302 LED239--4S/740 SH DSM11	No
12042900	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
12035100	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	Yes	LED650	3 unit	200

Order Code	Full Product Name	Driver included	Lamp family code	Number of gear units	Number of light sources
12036800	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	Yes	LED399	2 units	120

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Order Code	Full Product Name	Driver included	Lamp family code	Number of gear units	Number of light sources
12037500	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	Yes	LED239	1 unit	72 pcs
12038200	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	Yes	LED105	1 unit	32
12039900	BGB300 LED660--4S/740 SH DSM11	No	LED650	-	200

Order Code	Full Product Name	Driver included	Lamp family code	Number of gear units	Number of light sources
12040500	BGB301 LED399--4S/740 SH DSM11	No	LED399	-	120
12041200	BGB302 LED239--4S/740 SH DSM11	No	LED239	-	72 pcs
12042900	BGB302 LED105--4S/740 SH DSM11	No	LED105	-	32

General Information (2/2)

Order Code	Full Product Name	Product Family Code
12035100	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	BGB300
12036800	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	BGB301
12037500	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	BGB302
12038200	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	BGB302

Order Code	Full Product Name	Product Family Code
12039900	BGB300 LED660--4S/740 SH DSM11	BGB300
12040500	BGB301 LED399--4S/740 SH DSM11	BGB301
12041200	BGB302 LED239--4S/740 SH DSM11	BGB302
12042900	BGB302 LED105--4S/740 SH DSM11	BGB302

Initial Performance (IEC Compliant)

Order Code	Full Product Name	Initial luminous flux
12035100	BGB300 LED660--4S/740 PSD DSM11 D9 MDD	54780 lm
12036800	BGB301 LED399--4S/740 PSD DSM11 D9 MDD	33200 lm
12037500	BGB302 LED239--4S/740 PSD DSM11 D9 MDD	19920 lm
12038200	BGB302 LED105--4S/740 PSD DSM11 D9 MDD	8925 lm

Order Code	Full Product Name	Initial luminous flux
12039900	BGB300 LED660--4S/740 SH DSM11	54780 lm
12040500	BGB301 LED399--4S/740 SH DSM11	33200 lm
12041200	BGB302 LED239--4S/740 SH DSM11	19920 lm
12042900	BGB302 LED105--4S/740 SH DSM11	8925 lm

