



# SmartForm – the new standard for office lighting with slender recessed luminaires

## SmartForm TBS411

Reflecting Philips' drive for simplicity and sustainability, SmartForm recessed is a complete family of highly versatile modular and semi-modular luminaires. These luminaires are available with a choice of LED or MASTER TL5 light sources in very small, slender versions. Designed to fit in a wide range of ceiling types, this complete family can fulfill the majority of project requirements in most applications. Energy efficiency As well as incorporating energy-efficient LED or TL5 light sources and a range of Philips electronic ballasts, the SmartForm recessed family can be equipped with lighting controls for presence detection and daylight regulation (ActiLume) or daylight regulation only (Luxsense) in order to reduce energy consumption (W/m<sup>2</sup> is very low). In this way, this Green Flagship range also reduces the overall cost of ownership as well as CO<sub>2</sub> levels, making SmartForm an environmentally friendly choice. SmartForm recessed TBS411 – 'light beam' semi-modular – 600 mm module These slender SmartForm recessed luminaires are designed for integration in variety of linear ceiling systems: exposed and concealed T-bar, plaster and the extended versions for bandrastrer ceilings. 'Light beam' TBS411 1-lamp Micro-optics and covers (MLO-PC and Opal) in smallest concept, width 90 mm. Modular length 600, 900, 1200 and 1500 mm. To extend till 2400 mm. 'Light beam' TBS411 1-lamp with AIR Micro-optics and covers in smallest concept with AIR function, width 100 mm. Modular length 600, 900, 1200 and 1500 mm. To extend till 2400 mm. 'Light beam' TBS411 2-lamps Mini-optics, 2-lamps, width 115 mm. Modular length 600, 900, 1200 and 1500 mm. To extend till 2400 mm.

## Benefits

- Slender, recessed 'light beam' luminaires with micro- or mini-optics for unobtrusive ceiling integration
- Complete family of linear luminaires including very small, slender versions, all designed to fit a wide range of ceiling types
- Available with either 1 or 2 TL5 lamps for excellent, energy-efficient office lighting solutions

## Features

- Choice of LED or MASTER TL5 light sources
- Micro- or mini-optics
- Electronic ballast
- Can be equipped with lighting controls for presence detection and daylight regulation (ActiLume) or daylight regulation only (Luxsense)

## Application

- Offices
- Education
- Healthcare
- Recreation
- Retail
- Industry

## Specifications

<b>Type</b>	TBS411 (semi-modular light beam)	<b>Optic</b>	1-lamp version:
<b>Ceiling grid</b>	Module size in length: 600 mm for exposed- and symmetrical concealed- T-bar ceiling and plaster (board) ceilings Extended versions, length max. 2400 mm, for bandrastr ceilings		- Micro OLC very high efficiency high-gloss optic (C8-VH) - Micro OLC very high efficiency high-gloss optic with top-reflector (T C8-VH) - Micro OLC performer high-gloss optic (C8) - Micro OLC excellent comfort high-gloss optic (C8-C) - Micro OLC very high efficiency semi-high-gloss optic (D8-VH) - Micro OLC very high efficiency semi-high-gloss optic with top-reflector (T D8-VH) - Micro OLC performer semi-high-gloss optic (D8) - Micro OLC excellent comfort semi-high-gloss optic (D8-C) - Micro OLC performer semi-high-gloss bi-directional optic with top-reflector (T D8-BD) - Micro matt mirror, ribbed cross louvers (M2) - Micro high efficiency mirror, ribbed cross louvers (M2-H) - Micro high efficiency asymmetrical optic (A), no AIR function
<b>Light source</b>	Fluorescent: - 1 x or 2 x MASTER TL5 ECO / G5 / 13, 20, 25, 32, 45, 50, 73 W - 1 x or 2 x MASTER TL5 / G5 / 14, 21, 24, 28, 35, 39, 49, 54, 80 W		2-lamp version: - Mini OLC performer high-gloss optic (C6) - Mini OLC very high efficiency high-gloss optic (C6-VH) - Mini OLC performer semi-high-gloss optic (D6) - Mini OLC very high efficiency semi-high-gloss optic (D6-VH)
<b>Lamp included</b>	Yes, TL5 ECO (lamp color 830 or 840) Yes, TL5 (lamp color 827, 830 or 840) In certain versions no lamps are included	<b>Optical cover (1-lamp version)</b>	Opal cover (O), no AIR function OLC Micro Lens Optic in PC cover (MLO-PC), no AIR function
<b>Gear</b>	Electronic, 220-240 V / 50-60 Hz: - High Frequency Performer (HFP) - High Frequency Performer, intelligent, multi-watt (HFPI) - High Frequency Regulator, 1-10 V (HFR) - High Frequency Regulator, DALI (HFD) - High Frequency Regulator DALI, touch & dimming (HFD-T)		

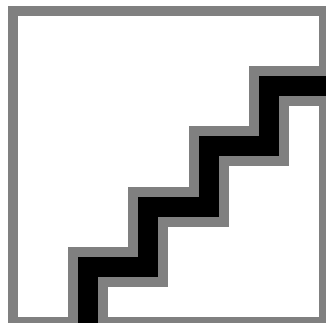
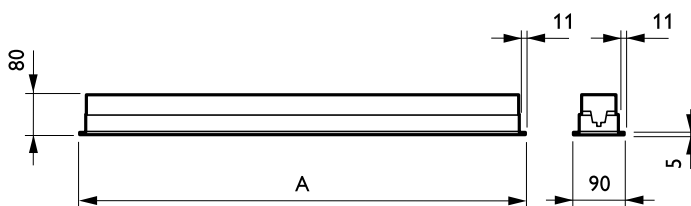
## Specifications

## SmartForm TBS411

<b>Connection (outside housing)</b>	Push-in connector (PI) or with pull relief (PIP)
	Wieland connector GST 18, 3 or 4 poles (W, W4 respectively)
	Wago connector, 3 or 4 poles (WA, WA4 respectively)
	Ensto connector, 3 or 4 poles (EN, EN4 respectively)
	Cable, length 200 cm, with plug CEE7 (CCE)
<b>Options</b>	Air handling, slots besides optics, width plus 10 mm (AIR)
	Emergency lighting: 1 hour (EL1), 3 hours (EL3)
	Lighting controls:
	- Luxsense daylight controller micro (LXM)
	- ActiLume multi controller (ACL)
	Internal PVC free wiring (PVCFR)
	Euro fuse (FU) included
<b>Extended versions (bandrafter ceilings)</b>	Symmetrical extended variable length, max. 2400 mm (L2400.0)
	Asymmetrical extended variable length, max. 2400 mm (L2400.0)

<b>Materials and color</b>	Housing: zinc-coated steel, white RAL 9016 based
	Optional white RAL 9010 or silver grey RAL 9006 based
	Rim detailing:
<b>Accessories</b>	- standard versions: width 12 mm, height 5 mm, post-lacquered
	- extended versions: width 12 mm, height 11 mm, pre-lacquered
	Exposed ceilings: lay-in, no brackets needed
	Concealed ceilings: bracket ZBS415 SMB SET
	Plaster ceilings: bracket ZBS460 SMB-PLC (12 pcs)
	Bandrafter ceilings:
	- SB1 for standard bandrafter (GPS200)
<b>Remarks</b>	- SB2 for GPS100
	- SB3 for C/U-profile bandrafter, metal ceiling
	Protection foil to protect the optic during installation
<b>Main applications</b>	Dedicated luminaires available with air-handling functionality (AIR), 50 m³/hour/luminaire
	Office, education, healthcare, recreation, retail, industry

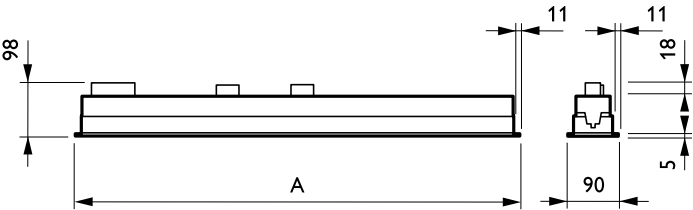
### Dimensional drawing



Product	A
TBS411 1x28W/840 HFP MLO-PC PIP	1197 mm
TBS411 1x54W/840 HFP C8-VH PIP	1197 mm
TBS411 1x49W/840 HFP D8-VH PIP	1497 mm
TBS411 1x49W/840 HFP D8 PIP	1497 mm
TBS411 1x28W/840 HFP C8-VH PIP	1197 mm
TBS411 1x54W/840 HFP D8 PIP	1197 mm
TBS411 1x28W/840 HFP C8 PIP	1197 mm
TBS411 1x28W/840 HFP D8 PIP	1197 mm
TBS411 1x28W/840 HFP D8-VH PIP	1197 mm
TBS411 1x49W/840 HFP MLO-PC PIP	1497 mm
TBS411 1x49W/840 HFP C8-VH PIP	1497 mm
TBS411 1x35W/840 HFP MLO-PC PIP	1497 mm
TBS411 1x54W/840 HFP C8 PIP	1197 mm
TBS411 1x28W/840 HFP O PIP	1197 mm
TBS411 1x54W/840 HFP MLO-PC PIP	1197 mm

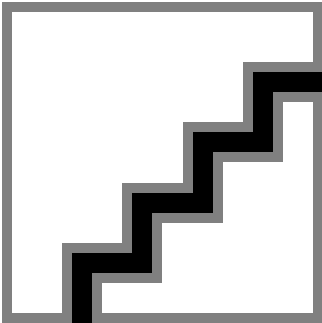
Product	A
TBS411 1x54W/830 HFP D8 W AIR	1197 mm
TBS411 1x35W/830 HFP D8-VH W AIR	1497 mm
TBS411 1x49W/830 HFP D8 W AIR	1497 mm
TBS411 1x35W/830 HFP D8 W AIR	1497 mm
TBS411 1x28W/830 HFP D8 W AIR	1197 mm
TBS411 1x28W/830 HFP D8-VH W AIR	1197 mm

Dimensional drawing

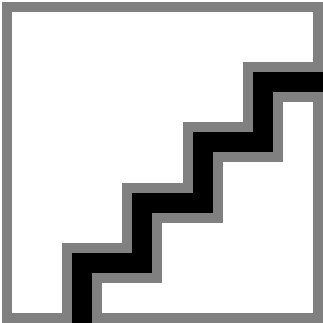


Product	A
TBS411 1x28W/840 HFP C8-VH W SC	1197 mm
TBS411 1x35W/840 HFP C8 W SC	1497 mm
TBS411 1x28W/840 HFP D8-VH W SC	1197 mm

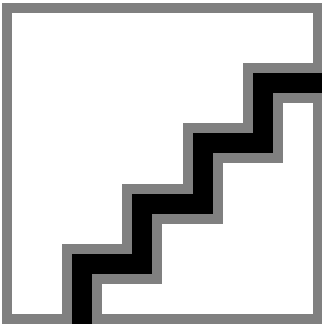
Product details



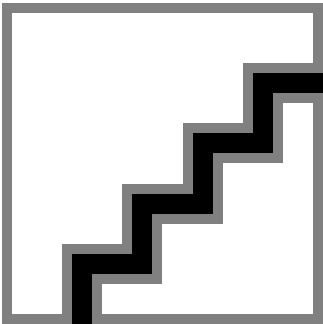
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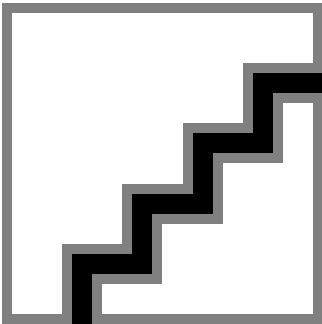
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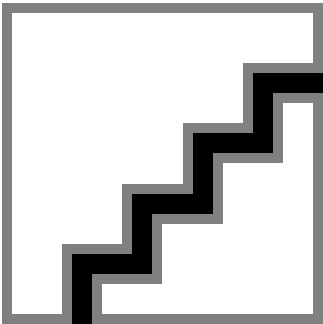
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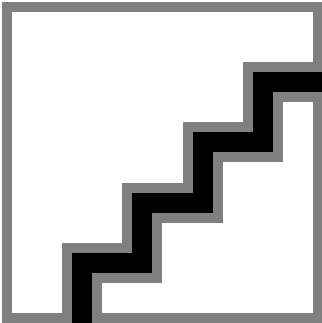


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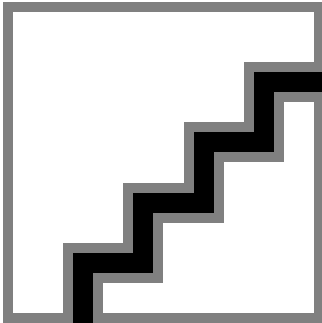


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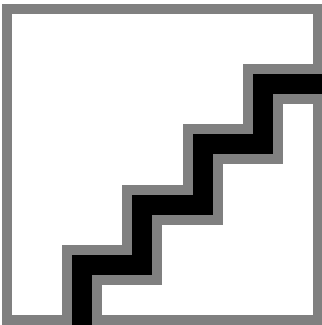
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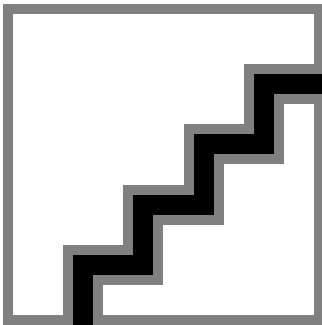
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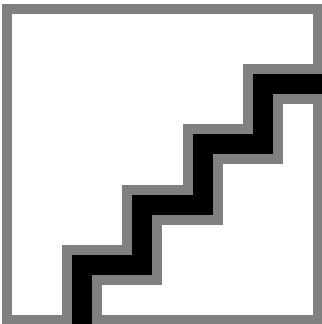
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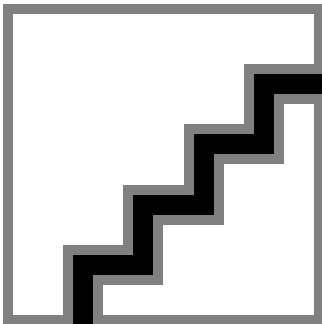
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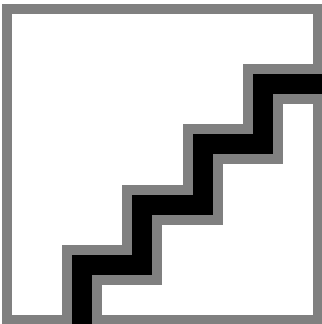
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IPDP\_TBS415i\_0113-Detail photo



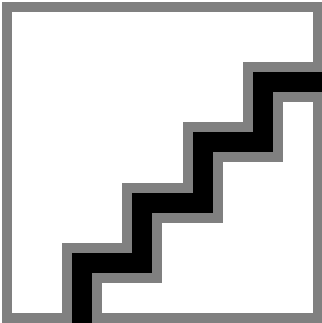
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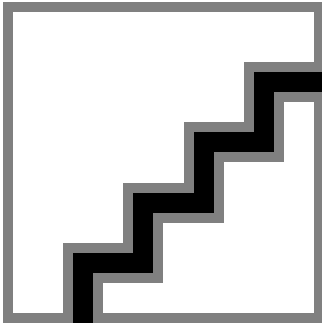
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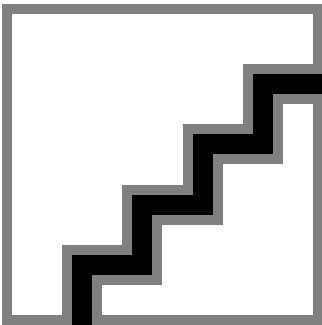
Product details



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IPDP\_TBS415i\_0025-Detail photo



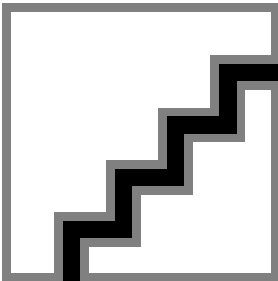
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Accessories

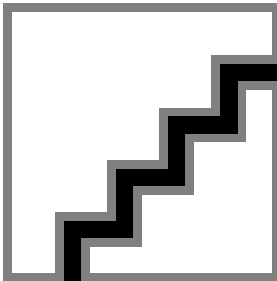
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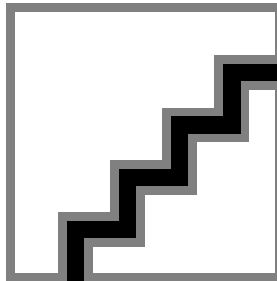
Polar Wide Diagrams



IFPS\_TBS411 1xTL5-54W HFP C8-Polar Normal  
(separate)

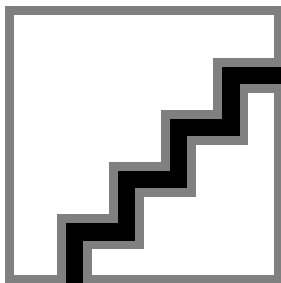


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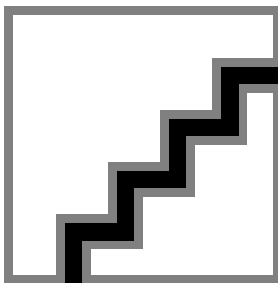


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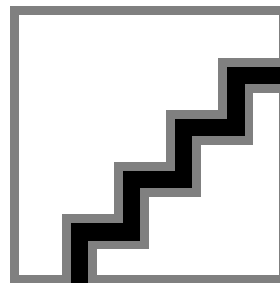
### Polar Wide Diagrams



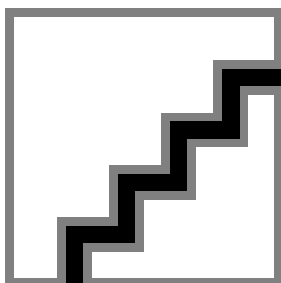
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IFPS\_TBS411 1xTL5-54W HFP C8-VH-Polar  
Normal (separate)



IFPS\_TBS411 1xTL5-28W HFP D8-VH-Polar  
Normal (separate)



IFPS\_TBS411 1xTL5-54W HFP MLO-PC-Polar  
Normal (separate)

