THE PERFECT REPLACEMENT

CONVENIENT LED TECHNOLOGY

FOR EASY REPLACEMENT OF HALOGEN LAMPS WITH REFLECTORS

LEDSpot XT4 modules with heat sink and lens

As the perfect replacement for halogen lamps,the new LED modules made by VS are ideal for use in suspended ceilings.

The LED modules are available with different lenses on request.

The package is rounded off by a matching LED driver housed in a compact VS LiteLine transformer casing plus a set of cables with pre-assembled plugs for connecting of up to two LED modules.

Key system facts

- **ENERGY SAVING: UP TO 80%**
- **REDUCTION OF MAINTENANCE COSTS**
  20 times longer life time
- **LED MODULES**
  With 4 High Power LEDs with pre-assembled optics and heat sink
- **COLOUR TEMPERATURES**
  From warm white (2700 °K) to cool white (6200 °K)
- **SNAP-IN FASTENERS**
  For quick and easy installation
- **COMPLETE SET OR SINGLE COMPONENTS**
  Available either individually or as a complete set featuring LED module, plug-in connector and constant current driver

VOSSLOH SCHWABE

A Member of the Panasonic Group Panasonic

Vossloh-Schwabe Deutschland GmbH · Hohe Steinert 8 · 58509 Lüdenscheid · Germany · Phone +49 23 51/10 10 · Fax +49 23 51/10 12 17 · www.vossloh-schwabe.com

LEDSpot XT4 modules with heat sink and lens

Diameter of PCB: Ø 45 mm
Number of LEDs: 4 LEDs with heat sink for optimal thermal management and assembled lens
Different colour temperatures on request
Weight: 90 g

Leads:
Cu tinned, stranded conductors AWG22, PVC insulation,
lengths: 100 mm with connector,
300 mm without connector

Electrical characteristics

at t_a = 25 °C

Type	350 mA				500 mA				700 mA			
	Voltage DC V		Power W		Voltage DC V		Power W		Voltage DC V		Power W	
	typ.	max.	typ.	max.	typ.	max.	typ.	max.	typ.	max.	typ.	max.
All types	11.4	13.6	3.99	4.76	11.6	14.5	5.8	7.25	12.2	15.5	8.5	10.9

Use of external LED constant current driver with max. 700 mA required.

Optical characteristics

at t_a = 25 °C

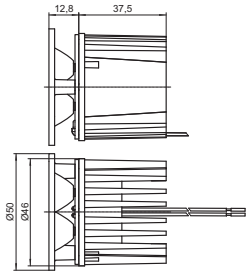
Type	Description	**Ref. No. without connector**	**Ref. No. with connector**	Colour	Correlated colour temperature** K	Luminous flux* (lm) at 350 mA (P_{el} = 3.99 W) min.	typ.	500 mA (P_{el} = 5.8 W) min.	typ.	700 mA (P_{el} = 8.5 W) min.	typ.	Light intensity at 700 mA Candela	Radiation angle °
LEDSpot modules XT4 10°													
LR4W	XPE 3000K min Q3	**547790**	**547794**	warm white	2870...3200	338	372.6	449.6	495.6	601	662.5	10,000	10
LEDSpot modules XT4 20°													
LR4W	XPE 3000K min Q3	**547789**	**547793**	warm white	2870...3200	338	372.6	449.6	495.6	601	662.5	3,100	20
LEDSpot modules XT4 30°													
LR4W	XPE 3000K min Q3	**547788**	**547792**	warm white	2870...3200	338	372.6	449.6	495.6	601	662.5	1,600	30
LEDSpot modules XT4 40°													
LR4W	XPE 3000K min Q3	**547726**	**547791**	warm white	2870...3200	338	372.6	449.6	495.6	601	662.5	1,100	40

* Measurement tolerance of luminous flux: ± 7% | Emission data at t_j = 85 °C

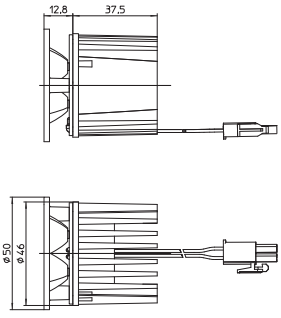
Operating service life

(lumen maintenance 70%)
Ambient temperature at t_a = 25 °C
50.000 h, I_f = 350 mA;
50.000 h, I_f = 500 mA;
40.000 h, I_f = 700 mA
This value do not refer to colour temperatures.

Mechanical dimensions without connector

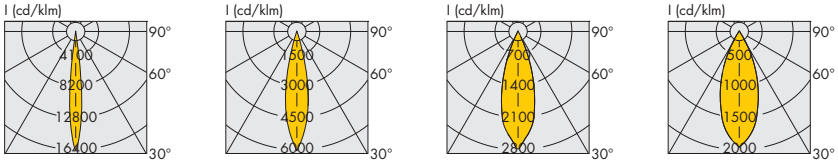


Mechanical dimensions with connector



LEDSpot XT4 modules with heat sink and lens

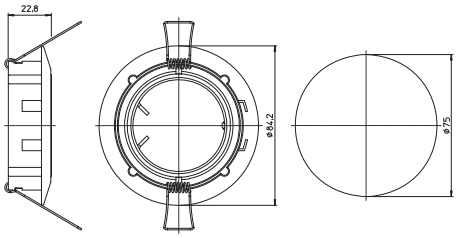
Typical light distribution curve



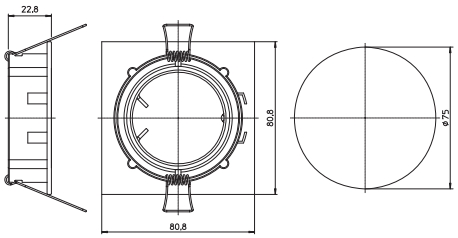
10° **20°** **30°** **40°**

Luminous intensity distribution at 700 mA and 3000 K												
	10°			20°			30°			40°		
	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m	1 m	2 m	3 m
Intensity (lux)	10.000	2500	1111	3100	775	344	1600	400	178	1100	275	122
Light spot diameter (m)	0.17	0.35	0.52	0.35	0.7	1.06	0.53	1.07	1.61	0.7	1.4	2.1

Adjustable round frame for the use with LEDSpots XT4
Snap-in clips for easy installation for ceilings
Diameter: Ø 84 mm
Weight: 72 g
Material: aluminium
Ref. No.: 550123 silver
Ref. No.: 550124 white



Adjustable square frame for the use with LEDSpots XT4
Snap-in clips for easy installation for ceilings
Dimensions: 80.8 x 80.8 mm
Weight: 65 g
Material: aluminium
Ref. No.: 550121 silver
Ref. No.: 550122 white

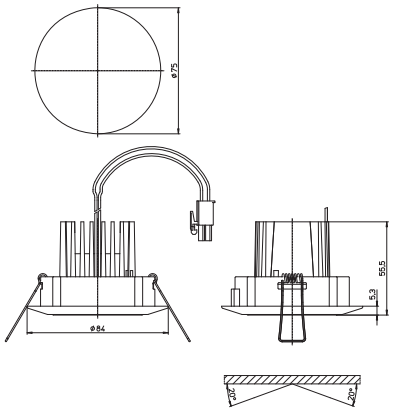


XT4 LEDSpot with with heat sink, frame and connector

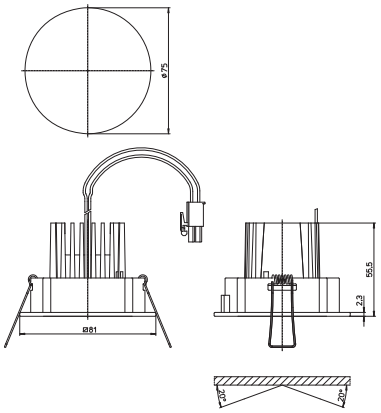
Round or square frame

Adjustable frame for cut-out: Ø 75 mm
LEDSpot with 4 LEDs and with heat sink
for optimum thermal management
Metal frame, round or square: Aluminium
Pre-assembled lens, Radiation angle: 40°
Leads: Cu tinned, stranded conductors 0.5 mm², PVC insulation, length: 100 mm, with connector
Use of external LED constant current driver with max. 700 mA required
Snap-in clips for easy installation in ceiling
Degree of protection: IP40
Weight: 162/155 g

Adjustable LED modules with round frame



Adjustable LED modules with square frame



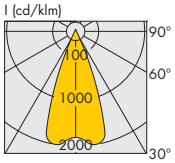
Type	Description	Colour	Correlated colour temperature K	Luminous flux* (lm) ati 350 mA (P_{el} = 3.99 W) min.	typ.	500 mA (P_{el} = 5.8 W) min.	typ.	700 mA (P_{el} = 8.5 W) min.	typ.	Light intensity 700 mA Candela	CRI R_a	Radiation angle* °
LR4W-XT-E-WW-40°	XTE 3000°K Min Q3	warm white	2870...3200	338	372.6	449.6	495.6	601	662.5	1100	80	40°

* Measurement tolerance of luminous flux: ± 7% | Emission data at t_j = 85 °C

	Round frame	Square frame
Frame colour	**Ref. No.**	**Ref. No.**
silver	**550337**	**550341**
white	**550338**	**550342**

Versions with different optics and colur temperatures on request

Typical light distribution curve



with lens 40°

Luminous intensity distribution at 700 mA and 3000 K	40° 1 m	2 m	3 m
Intensity (lux)	1100	275	122
Light spot diameter (m)	0.7	1.4	2.1

Lead sets

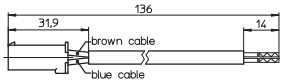
For LEDSpots and LEDSpot modules

Lead sets with connector
for easy and fast connection
Connector material: PA, natural, UL94V-0

Leads: Cu tinned, stranded conductors 0.5 mm², PVC insulation, with connector,
Lead ends: ferrules
Packing unit: 10 pcs.

Lead sets
Lead sets with connector and lead ends for LED constant current driver in LiteLine casing
Weight: 18/36 g
Ref. No.: 545029 with 1 connector
Ref. No.: 546388 with 2 connectors

545029



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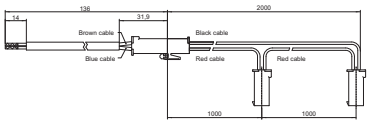
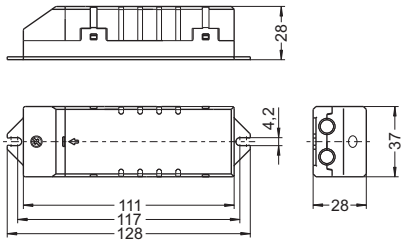


LED Constant Current Drivers

The electronic stabilised power supplies ECXe are optimised to drive VS High Power LED modules. Primary side switching only. Before connecting LED modules ensure that the power supplier is isolated.

Mains voltage: 220–240 V ±10%
Mains frequency: 0 Hz, 50–60 Hz
Dimensions: 128x37x28 mm
Electronic short-circuit protection
Overload protection
Protection against "no load" operation
Degree of protection: IP20, protection class II
SELV-equivalent,
Power factor: 0.6
Screw terminals: 2.5 mm²
Quantity of screw terminals:
1x2-poles primary
1x2-poles secondary
With integrated cord grip
Service life time: 50,000 hrs
permanent operation when maximum temperature $t_{cmax.}$ at t_c point will not be exceeded; failure rate: < 0.2% per 1,000 hrs



Max. output W	Type	Ref. No.	Mains current mA	Output current mA	Voltage output V	Ambient temperature t_a °C	Casing temperature t_c °C	Quantity of LED modules per driver	Weight g
11	ECXe 350mA/11W	**186157**	122/117	350 ±5%	2 - 31	- 20 to 50	70	2	71
16	ECXe 500mA/16W	**186158**	160/155	500 ±5%	2 - 32	- 20 to 50	75	2	71
17	ECXe 700mA/17W	**186159**	188/178	700 ±5%	2 - 25	- 20 to 50	75	1	71

Assembly and safety information

LEDSpot XT4 modules with heat sink and lens

Installation and maintenance must always be performed by a qualified fitter in accordance with relevant legislation.
The following instructions must be strictly observed. Vossloh-Schwabe Deutschland GmbH accepts no liability for any possible inaccuracies during installation, any non-compliance with these instructions or for any possible omissions in this publication.

In addition, Vossloh-Schwabe Deutschland GmbH reserves the right to make modifications at any time and without prior notification. This data sheet is an integral part of the equipment and its safety devices and should therefore be kept in a safe place for easy reference. The equipment must always be disconnected from the mains prior to undertaking any maintenance work. The safety instructions on the type plate of the components must be strictly observed.

- Safe operation only possible by the use of external constant current sources.
- Power supply units must be used for operation, in which the following protective measures are ensured:
  - Short-circuit protection
  - Overload protection
  - Overheating protection
  - SELV equiv. (Safety Extra Low Voltage)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- The maximum output of the power supply must be observed.
- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules.
- The modules are not protected against dust or moisture. When LED modules are operated in unduly moist or dusty environments, care must be taken to ensure each module is built into a protective casing in compliance with the correct IP classification or provided with corrosion protection.
  Damage caused by moisture and/or corrosion will not be recognised as a material or manufacturing defect.
- Under no circumstances may LED modules ever be covered by insulation material or similar.
- For optimal load of used constant current driver the LED modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver.
  Under no circumstances may the sum of the forward bias exceed 60 V DC.
- A parallel connection of the modules is not allowed.
- Tests have shown the following chemicals to be harmful to LEDs used on the modules. It is recommended not to use the under-mentioned chemicals anywhere in an LED system.
  The fumes from even small amounts of these chemicals may damage the LEDs.
  - Chemicals that might outgas aromatic hydrocarbons (e.g., toluene, benzene, xylene)
  - Methyl acetate or ethyl acetate (i.e., nail polish remover)
  - Cyanoacrylates (i.e., "Superglue")
  - Glycol ethers (including Radio Shack®, Precision Electronics Cleaner – dipropylene glycol monomethyl ether)
  - Formaldehyde or butadiene (including Ashland PLIOBOND® adhesive)
  - Dymax 984-LVUF conformal coating
  - Loctite Sumo glue
  - Gorilla glue
  - Clorox bleach
  - Clorox Clean-Up cleaner spray
  - Loctite 384 adhesive
  - Loctite 7387 activator
  - Loctite 242 threadlocker

  Detailed information of handling of Cree LEDs can be found on www.cree.com.
- Photobiological safety of lamps and lamp systems;
  German version EN 62471:2008
  General lighting: exempt group

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Vossloh-Schwabe Deutschland GmbH · Hohe Steinert 8 · 58509 Lüdenscheid · Germany · Phone +49 23 51/10 10 · Fax +49 23 51/10 12 17 · www.vossloh-schwabe.com