

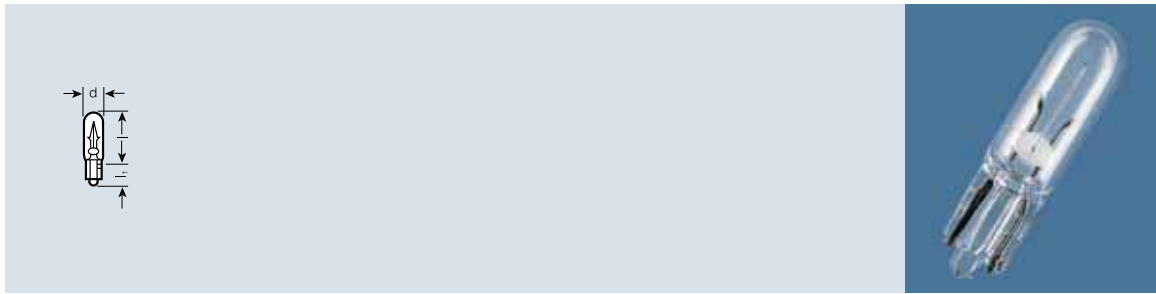
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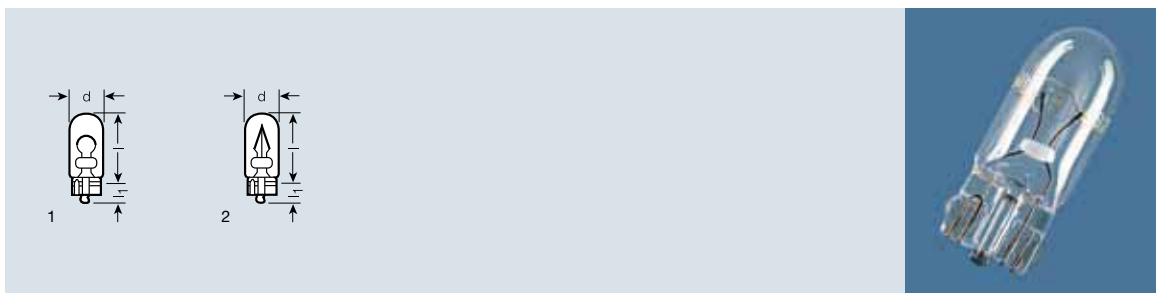
# MINIWATT® lamps T5

## MINIWATT® lamps T10



Product reference	Product number Single pack	V	W		
<b>MINIWATT® lamps T5</b>					
2721	4050300838540	12	1,2	W2x4.6d	50
2722	4008321094803	12	2	W2x4.6d	50
2741	4050300838519	24	1,2	W2x4.6d	50
2741MF	4050300891606	24	1,2	5d	5

Internationally standardised base and holder dimensions ensure that they can be used as direct replacements for similar lamps.



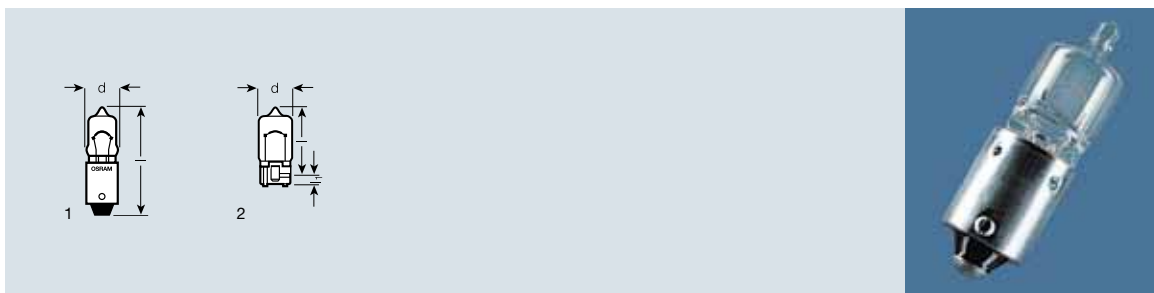
Product reference	Product number Single pack	V	W			
<b>MINIWATT® lamps T10</b>						
2821	4050300838663	12	3	W2.1x9.5d	50	1
2825	4050300838632	12	5	W2.1x9.5d	50	1
2886X	4008321094667	12	6	W2.1x9.5d	50	1
2840	4008321094698	24	2	W2.1x9.5d	50	2
2841	4008321094728	24	3	W2.1x9.5d	50	2
2845	4050300891552	24	5	W2.1x9.5d	50	2




### With their larger bulb, they offer the following advantages:

- Good fit in standard holders, good electrical contact
- Close LCL tolerances; important for use in light guide systems
- Long life and high luminous flux

Internationally standardized base and holder dimensions ensure that they can be used as direct replacements for similar lamps.

# MINIWATT® halogen lamps



Product reference	Product number Single pack	V	W		Product number Standard pack		 No.
<b>MINIWATT® halogen lamps</b>							
64111	4008321 <b>095015</b>	12	5	BA9s	4008321 <b>095039</b>	50	1
64113	4008321 <b>095046</b>	12	10	BA9s	4008321 <b>095060</b>	50	1
64115	4008321 <b>095077</b>	12	20	BA9s	4008321 <b>095091</b>	50	1

## MINIWATT® tungsten-halogen lamps

These lamps feature hard-glass technology.

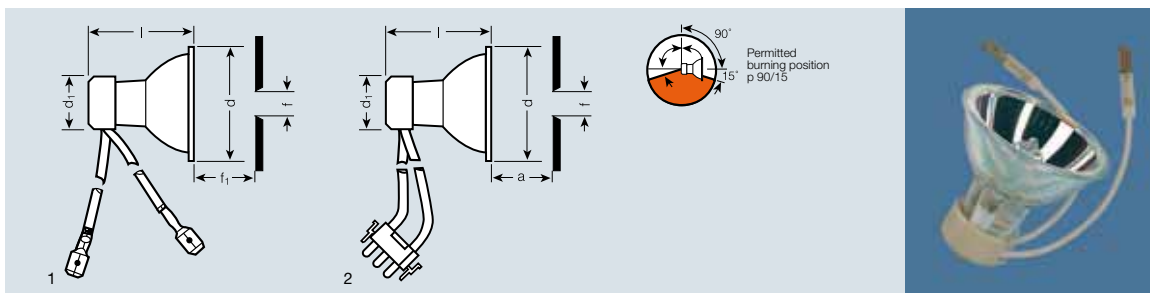
They offer the following advantages:

- High luminous flux, constant throughout the life of the lamp
- Low power consumption
- High color temperature, i.e. white light
- Stable mounting, close tolerances
- Dimmable

Internationally standardized base and holder dimensions ensure that they can be used as direct replacements for similar lamps.



# SIRIUS® low-voltage halogen lamps with reflector for matrix displays



Product reference	Product number Single pack	V TEST	W	Im <sup>2)</sup>	t [h] <sup>3)</sup>		
<b>SIRIUS® low-voltage halogen lamps with reflector for matrix displays</b>							
SIG 64002B <sup>1)</sup>	4050300324562	12	20	120	2000	KX23d	51
SIG 64004	4050300245225	10	50	350	2000	K23d	51
SIG 64005	4050300282060	10	50	250	6000	K23d	51

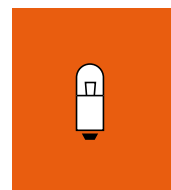
  

Product reference						
<b>SIRIUS® low-voltage halogen lamps with reflector for matrix displays</b>						
SIG 64002B <sup>1)</sup>	46,50	24,5	10,2	42	10	1
SIG 64004	46,50	24,5	10,2	42	10	1
SIG 64005	46,50	24,5	10,2	42	10	1

A major benefit of the SIRIUS® dichroic reflector lamps is the optimum fixed adjustment of the halogen tube with regard to the reflector. This results in very high axial luminous intensity. Other benefits of this series of lamps include long life and a high-quality coating on the reflector. The connecting cables are equipped with contacts and insulation that are highly resistant to corrosion and heat.

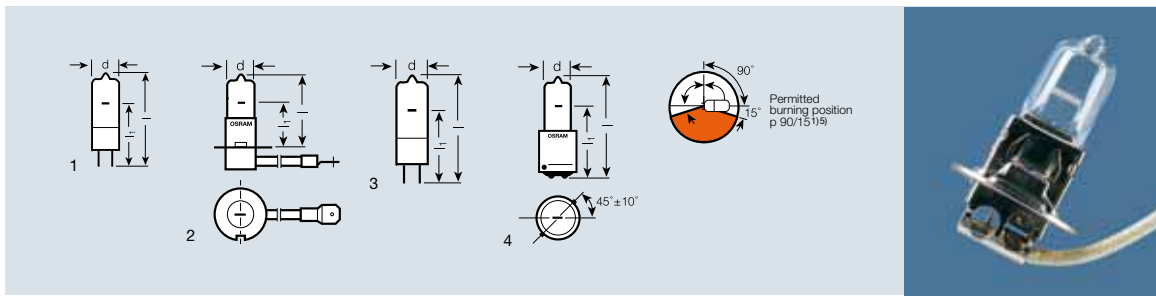
## Operating instructions:

All halogen signal lamps operate at high temperature and pressure. They may therefore only be operated in signal equipment/luminaires specially designed for the purpose. Make sure that the lamps are protected against moisture during operation and in particular during relamping.



1) For rail signals  
 2) Measured behind the aperture of 10.2 mm  $\varnothing$  = W fiber bundle  
 3) Average life at test voltage/current

# Low-voltage halogen lamps for road traffic equipment



Product reference	Product number Single pack	V TEST	W	Im	t [h] <sup>6)</sup>	
<b>Low-voltage halogen lamps for road traffic equipment</b>						
SIG 64015	4050300217543	10	50	750	8000	PKX22s
Product reference				Product number Standard pack		
<b>Low-voltage halogen lamps for road traffic equipment</b>						
SIG 64015	11,5	32	18	4050300217567	100	2

The benefits of halogen signal lamps are as follows:

- Particularly high luminous flux
- Almost point-like light source for optimum focusing
- Virtually constant luminous flux throughout the life of the lamp
- Long life

## Operating instructions:

All halogen signal lamps operate at high temperature and pressure. They may therefore only be operated in signal equipment/luminaires specially designed for the purpose. Make sure that the lamps are protected against moisture during operation and in particular during relamping. When installing a new lamp, handle it by its protective cardboard sleeve.



# LV high-pressure lamps in 10 V technology for road traffic

## LV LONGLIFE lamps in 10 V technology for road traffic



Product reference	Product number Single pack	V TEST	W	lm		d max. [mm]	l max. [mm]	h [mm] <sup>4)</sup>	Product number Standard pack	
<b>Low-voltage high-pressure lamps in 10 V technology for road traffic</b>										
SIG 1227	4008321 <b>903990</b>	10,5	22	270	BA20s	36	67	31	4050300 <b>235028</b>	200
SIG 1238	4050300 <b>831794</b>	10,5	30	400	BA20s	36	67	31	4050300 <b>253091</b>	10x1
SIG 1259	4050300 <b>831770</b>	10,5	45	600	BA20s	36	67	31	4050300 <b>253633</b>	100

Low-voltage high-pressure signal lamps have a much higher luminous efficacy than high-voltage signal lamps. This is due to the higher gas pressure and the inert filler gas. The larger diameter of the tungsten wire of the low-voltage filament also helps increase efficiency. This means that low-voltage high-pressure lamps with significantly lower wattages can often be used, with a resultant reduction in the power consumption of the signaling equipment. The filament wire is more stable than in

the HV lamp, which means that resistance to shocks and vibration is particularly high. The failure rate for standard 10 V low-voltage high-pressure lamps is less than 2% within the first 4400 hours of operation<sup>1)</sup>. These benefits can also be put to use in existing 230 V signaling installations as it is possible to convert line voltage installations to 10 V technology. For this, the lamp and reflector have to be replaced and a transformer installed.



Product reference	Product number Single pack	V TEST	W	lm		d max. [mm]	l max. [mm]	h [mm] <sup>4)</sup>	Product number Standard pack	
<b>Low-voltage LONGLIFE lamps in 10 V technology for road traffic equipment</b>										
SIG 1227 LL	4008321 <b>037695</b>	10,5	22	270	BA20s	36	67	31	4050300 <b>900179</b>	200
SIG 1238 LL	4008321 <b>037701</b>	10,5	30	400	BA20s	36	67	31	4050300 <b>790503</b>	200

The existing low-voltage high-pressure signal lamp has been further developed into a LONGLIFE lamp. For these LONGLIFE versions (LL) the 2% premature failure threshold<sup>1)</sup> has been raised to 8000 hours. Maintenance intervals of up to one year are therefore possible (depending on the system).

These lamps can of course be used as direct replacements for low-voltage high-pressure lamps with no need for any adjustments. The same procedure as for low-voltage high-pressure lamps is also used for upgrading high-voltage systems.

1) The premature failure rate is restricted to cases that are due to lamp faults and not to external influences  
2) Lamps with transverse filaments should only be inclined perpendicular to the filament plane

3) Only the permissible burning positions may be used otherwise the lamp will fail prematurely  
4) LCL = light center length (distance from the coil to top of base)

# HV krypton lamps for road traffic equipment

## HV Longlife krypton lamps for road traffic equipment



Product reference	Product number Single pack	V TEST	W	lm		d max. [mm]	l max. [mm]	l <sup>3)</sup> [mm]	Product number Standard pack	
<b>High-voltage krypton lamps for road traffic equipment</b>										
SIG 1546	4050300222608	235	100	840	E27	62	101	79	4050300284101	100

Many traffic light installations throughout mainland Europe are still operated on line voltage of between 220 and 240 V. Right from the start, the rugged construction of the line voltage signal lamps has proved its worth. These lamps also meet the high photometric requirements demanded by the signal optics used. High-voltage signal lamps are designed for an average life of 8000 hours. For meaningful economic and safety comparisons and for working out maintenance intervals the “individual lamp life” or premature failure rate is a better yardstick. In the case of these high-voltage signal lamps, the failure rate in the first 3000 hours of operation is no more than 2%. This premature failure rate<sup>1)</sup> allows maintenance intervals of around 4 months (depending on the system).

### The advantages of high-voltage krypton lamps are as follows:

- Excellent optical efficiency thanks to a small cradle diameter
- High luminous efficacy from krypton as the filler gas
- High resistance to shock and vibrations thanks to the nine supports for the filament
- Corrosion-resistant bases

The krypton inert-gas lamps conform to the specifications of DIN 49842-2 and DIN 49842-3. This means that in modern signal lights the luminous intensity values laid down in DIN 67527-1 and DIN EN 12368 are met.

Product reference	Product number Single pack	V TEST	W	lm		d max. [mm]	l max. [mm]	l <sup>3)</sup> [mm]	Product number Standard pack	
<b>High-voltage Longlife krypton lamps for road traffic equipment</b>										
SIG 1541 LL	4008321044327	235	60	380	E27	62	91	69	4050300613642	100

OSRAM has managed to improve the tried and trusted high-voltage lamp technology even further. Maintenance cycles are longer with the new Longlife signal lamps. Depending on the system, these cycles may be up to one year. Average life is 14,000 hours. Within the first 6,000 hours of operation there are no more than 2% lamp failures<sup>1)</sup>.

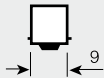
The rated luminous intensities defined in EN 12 368 are achieved at all wattage levels. Longlife lamps correspond completely to the successful standard series in their technical design, E27 base and unchanged light center length. They can therefore be used in existing high-voltage signals without the need for upgrades or adjustments.

1) The premature failure rate is restricted to cases that are due to lamp faults and not to external influences  
2) Only the permissible burning positions may be used otherwise the lamp will fail prematurely

3) LCL = light center length

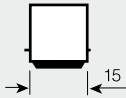
# Bases

## IEC/EN 60061-1



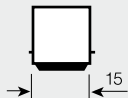
BA9s  
Sheet 7004-14

Holder standard:  
Sheet 7005-12



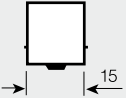
B15d  
Sheet 7004-11

Sheet 7005-16



BA15d  
Sheet 7004-11A

Holder standard:  
Sheet 7005-13



BA15s  
Sheet 7004-11A

Sheet 7005-13



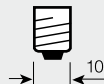
BA20d  
Sheet 7004-12

Sheet 7005-14



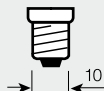
BA20s  
Sheet 7004-12

Sheet 7005-14



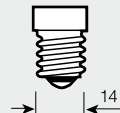
E10  
Sheet 7004-22

Holder standard:  
Sheet 7005-20



EP10  
Sheet 7004-30

Sheet 7005-30



E14  
Sheet 7004-23

Sheet 7005-20



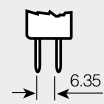
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Sheet 7004-21

Sheet 7005-20



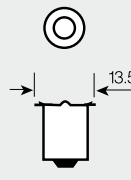
G4  
Sheet 7004-72

Holder standard:  
Sheet 7005-72



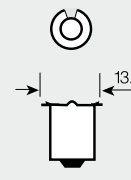
GY6.35-15  
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Sheet 7005-59



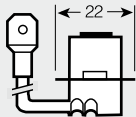
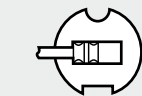
P13.5s  
Sheet 7004-40

Sheet 7005-35



PX13.5s  
Sheet 7004-35

Sheet 7005-35



PK22s  
Sheet 7004-47

Holder standard:  
Sheet 7005-47



W2x4.6d  
Sheet 7004-94

Sheet 7005-94



W2.1x9.5d  
Sheet 7004-91

Sheet 7005-91

