

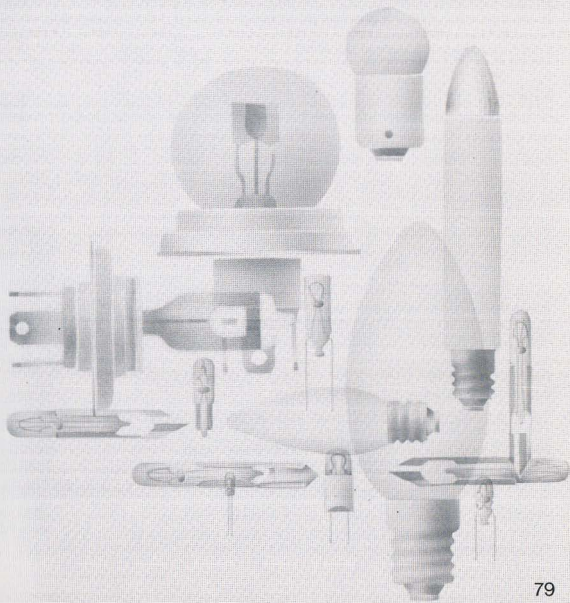
PHILIPS

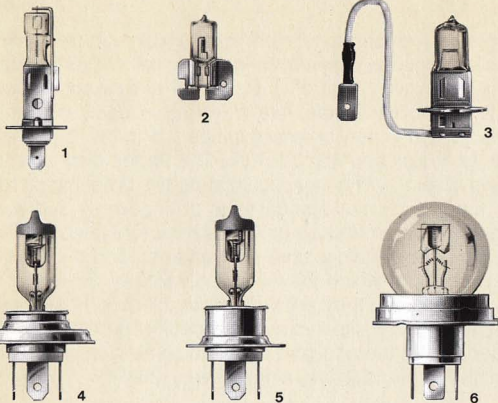
**compact
lighting
catalogue**



AUTOMOTIVE AND MINIATURE LAMPS

Traffic safety demands efficient and reliable vehicle lighting. Philips' continuous research and development has established a comprehensive range of lamps for all vehicle applications, including motorcar lamps. Available to European and American standards and in non-standard lamps – all to the same Philips quality in design and manufacture. The Philips twin-filament halogen 'Duplo' – PH4 headlight lamps are breaking all records in the race to set new standards of driving safety and comfort. The only miniature feature of Philips miniature lamps is their size. They are certainly small enough to meet the limited-space requirements for which they were so carefully designed. But in every other sense they are very much full-size. In efficiency, strength, reliability, life – in every aspect of performance. You can depend on them to give outstanding service wherever they are employed. And that is almost everywhere.



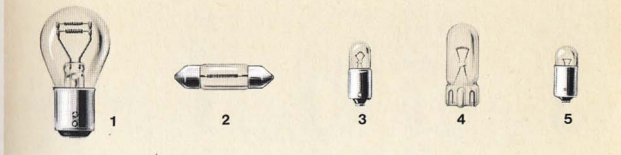


HEADLIGHT LAMPS

First quality European standardized lamps. Data conforms with the regulations laid down by the United Nations Economic Commission for Europe.

Type ¹⁾	Voltage V	Wattage W	Base	Weight	Fig.	Ordering number
Halogen lamps H1/H2						
Axial-filament types						
6258 H1	6	55				9238 855 101 ..
12258 H1	12	55	P14,5s	8	1	9238 855 171 ..
13258 H1	24	70				9238 860 205 ..
12311 H2	12	55	X511	2,5	2	9238 854 171 ..
Halogen lamps H3						
Transversal-filament types						
6336 H3	6	55				9238 857 101 ..
12336 H3	12	55	PK22s	8	3	9238 857 171 ..
13336 H3	24	70				9238 861 205 ..
Halogen lamps H4						
Asymmetric types						
6342 H4	6	60/55	P43t-38	26	4	9238 866 101 ..
12342 H4	12	60/55				9238 866 171 ..
6453 H4	6	60/55	P36t	26	5	9238 865 101 ..
12453 H4	12	60/55				9238 865 171 ..
'Duplo'-d lamps						
6620	6	45/40				9226 190 101 ..
12620	12	45/40	P45t-41	27	6	9226 190 171 ..
13620	24	55/50				9226 192 205 ..

¹⁾ For dimensions, apply to your local Philips organization.



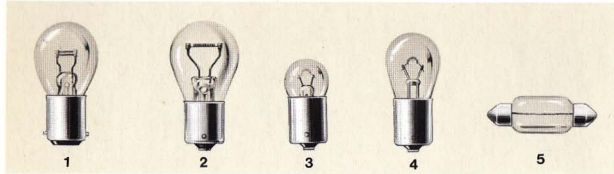
AUXILIARY LAMPS - EUROPEAN STANDARDIZED

These lamps conform to U.N.E.C.E. regulations. Only 12 V lamps are listed. 6 V and 24 V lamps can also be supplied.

DIMENSIONS

Type	Fig.	Max. length	Max. bulb dia.
12499	1	50,5	25,5
12498	—	50,5	25,5
12821/12814	—	35	18,5
12844	2	36,2	11
12961	—	20,7	10,29
12516	—	20	5
12929	3	27,4	8,6
12960/12256	4	20,7	10,29
12913	5	23,9	8,6

Type	Wattage W	Base	Weight	Fig.	Ordering number
Double-filament stop/flasher lamps					
12499	21/5	BAY15d	9	1	9226 777 171 ..
Single-filament stop/flasher lamps					
12498	21	BA15s	9	—	9226 737 171 ..
Side, tail and parking lamps					
12821	5	BA15s	5,65	—	9234 020 171 ..
12814	10				9234 041 171 ..
12844	5	SV8,5	2,6	2	9236 341 171 ..
12961	5	—	1,25	—	9237 220 171 ..
12516	1,2	—	0,47	—	9237 200 171 ..
12929	4	BA9s	2,05	3	9234 350 171 ..
Interior/dashboard lamps					
12960	2	—	1,25	4	9237 205 171 ..
12256	3				9237 212 171 ..
12913	2	BA9s	2,0	5	9234 315 171 ..



AUXILIARY LAMPS - STANDARD TYPES - EXTERIOR

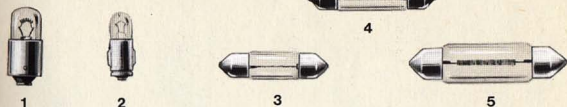
12 V lamps for exterior functions. 6 V and 24 V types can also be supplied.

DIMENSIONS

Type	Fig.	Max. length	Max. bulb dia.
12503	1	50,5	25,5
12517/12500	-	50,5	25,5
12401/12445	-	45	22,5
12421	2	45	25,5
12402	-	45	22,5
12413	3	35	18,5

Type	Fig.	Max. length	Max. bulb dia.
12400	-	35	18,5
12403	4	45	22,5
12404	-	45	22,5
12850/12807	5	41	15,5
12822	-	35	18,5
12819	-	29,2	15,5

Type	Wattage W	Base	Weight	Fig.	Ordering number
Double-filament stop/flasher lamps					
12503	20/5	BA15d	9	1	9226 771 171 ..
12517	18/5	BAY15d	9	-	9226 770 171 ..
12500	20/5				9226 772 171 ..
Single-filament stop/flasher lamps					
12401	15	BA15s	6	-	9234 200 171 ..
12445	18				9234 230 171 ..
12421	20	BA15s	8	2	9226 721 171 ..
12402	15	BA15d	6	-	9234 201 171 ..
12413	15	BA15s	5,65	3	9234 210 171 ..
12400	10	BA15d	5,65	-	9234 040 171 ..
12403	15	BA15s	6	4	9234 220 171 ..
12404	15	BA15d	6	-	9234 221 171 ..
12850	15	SV8,5	2,8	5	9236 390 171 ..
12807	18				9236 395 171 ..
Side, tail and parking lamps					
12822	5	BA15d	5,65	-	9234 021 171 ..
12819	6	BA9s	2,25	-	9234 371 171 ..



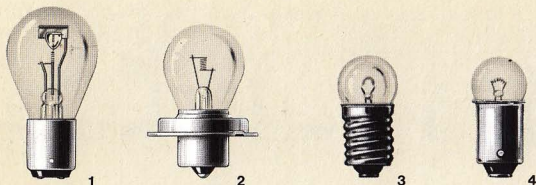
AUXILIARY LAMPS - STANDARD TYPES - INTERIOR

12 V lamps for interior functions. 6 V and 24 V types can also be supplied.

DIMENSIONS

Type	Fig.	Max. length	Max. bulb dia.
12910	1	23,9	8,8
12929	2	20,7	6,8
12842	3	28	8
12843	4	33	8
12849	-	33	6,5
12914	-	36	8
12854	-	36	11
12864/12866	5	41	11

Type	Wattage W	Base	Weight	Fig.	Ordering number
Dashboard, interior and parking lamps					
12910	3	BA9s	2,03	1	9234 340 171 ..
12929	2	BA7s	1,1	2	9234 316 171 ..
12842	3	SV7	1,55	3	9236 320 171 ..
12843	3	SV7	1,8	4	9236 321 171 ..
12849	3	SV6	1,45	-	9236 324 171 ..
12914	3	SV7	2,0	-	9236 323 171 ..
12854	10	SV8,5	2,6	-	9236 382 171 ..
12864	5	SV8,5	2,8	5	9236 342 171 ..
12866	10	SV8,5	2,8	5	9236 380 171 ..



BICYCLE LAMPS AND LAMPS FOR BICYCLES WITH AUXILIARY MOTOR

A wide range of dependable lamps for bicycle, with or without auxiliary motor, for safety after dark or in bad weather conditions.

BICYCLE LAMPS

Type	Fig.	Voltage V	Current A	Luminous flux lm	Base	Max. length	Dia.	Ordering number
Head lamps								
7133D	-	6	0,25	15,75	E10	29	15	9234 420 101 ..
7140D	-	6	0,30	18	E10	29	15	9234 425 101 ..
7141D	-	6	0,35	19	E10	29	15	9234 430 101 ..
7152D	-	6	0,40	23	E10	29	15	9234 435 101 ..
7152C	-	6	0,40	23	EP10	29	15	9234 438 101 ..
7142D	-	6	0,45	25	E10	29	15	9234 440 101 ..
Tail lamps								
7121D	3	6	0,05	1	E10	24	11	9234 406 101 ..
7121N	4	6	0,05	1	BA9s	24	11	9234 405 101 ..
7098D	3	6	0,10	2	E10	24	11	9234 411 101 ..

LAMPS FOR BICYCLES WITH AUXILIARY MOTOR

Type	Fig.	Voltage V	Wattage W	Luminous flux lm	Base	Max. length	Dia.	Ordering number
Head lamps								
7012D	-	6	4	40	E10	29	15	9234 472 101 ..
7014D	-	6	4,8	50	E10	29	15	9234 474 101 ..
7017D	-	6	6,2	65	E10	29	15	9234 477 101 ..
7018D	-	6	6,8	75	E10	29	15	9234 478 101 ..
7019D	-	6	7,5	90	E10	29	15	9234 479 101 ..
7008	2	6	15	-	P26s	47	25	9226 597 101 ..
7030 ¹⁾	1	6	15/15	-	BAX15d	54	28	9226 005 101 ..
Tail lamps								
7000N	3	6	1,5	6	BA9s	24	11	9234 466 101 ..
7009D	4	6	2	13	E10	24	11	9234 467 101 ..
7009N	4	6	2	13	BA9s	24	11	9234 468 101 ..
7087D	3	6	3	22	E10	24	11	9234 451 101 ..
7087N	4	6	3	22	BA9s	24	11	9234 450 101 ..
7007D	-	6	4,8	20	E10	29	15	9234 460 101 ..

¹⁾ 'Duplo' lamp.



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FLASHLIGHT LAMPS, PREFOCUS FLASHLIGHT LAMPS, LENS-END LAMPS

Round bulb flashlight lamps for an even spread of light or torches which have a focusing device. Prefocus lamps for a high-intensity beam when used with a parabolic reflector. Lens-end lamps for a concentrated light beam, commonly used in pencil-type torches.

FLASHLIGHT LAMPS

Type	Fig.	Voltage V	Current A	Luminous flux lm	Base	Max. length	Dia.	Ordering number
7100D	1	1,5	0,15	1	E10	24	11	9234 500 013 ..
6890D	1	2,5	0,20	4		24	11	9234 510 032 ..
7135D	1	2,5	0,30	6,5		24	11	9234 530 032 ..
7103D	2	3,5	0,20	4,25		22	12	9234 513 052 ..
6891D	1	3,5	0,20	7		24	11	9234 510 052 ..
6882D	1	3,8	0,07	2,4		24	11	9234 580 058 ..
7138D	1	3,8	0,30	11		24	11	9234 530 058 ..
7139D	1	4,5	0,30	15		24	11	9234 530 072 ..
7145D	3	6,2	0,30	22		27	14	9234 535 109 ..

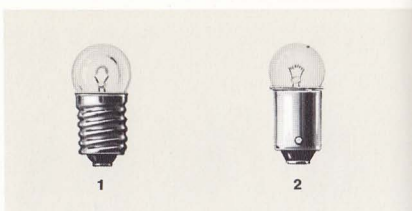
PREFOCUS FLASHLIGHT LAMPS

PR 4	4	2,3	0,27	5,9	P13,5s	30,5	11	9234 529 028 ..
PR 2	4	2,4	0,50	11				9234 540 029 ..
PR 6	4	2,5	0,30	6,5				9234 531 032 ..
PR 9	4	2,7	0,15	3				9234 501 036 ..
PR 3	4	3,6	0,50	20				9234 540 054 ..
PR 7	4	3,7	0,30	11				9234 531 056 ..
PR 11	4	4,5	0,35	17,3				9234 564 072 ..
PR 15	4	4,5	0,50	26,1				9234 540 072 ..
PR 13	4	4,75	0,50	28,5				9234 540 077 ..
PR 12	4	6,0	0,50	35				9234 540 101 ..
PR 18	4	7,2	0,55	51,5	9234 545 131 ..			

LENS-END LAMPS

112	5	1,2	0,22	0,7	E10	23,5	9,1	9234 518 007 ..
7067D	5	2,2	0,18	3				9234 509 026 ..
222	5	2,2	0,25	4,5				9234 520 026 ..
7068D	5	2,5	0,20	4,25				9234 514 032 ..
7071D	5	2,5	0,30	6,5				9234 533 032 ..
7069D	5	3,5	0,20	6,65				9234 514 052 ..
7072D	5	3,7	0,30	11,3				9234 533 056 ..

DIAL LAMPS



An extensive range of low-voltage lamps for panel lighting and indication purposes. Widely used in radio and audio equipment because of their interference-free operation, they are suitable for many other applications too.

Type	Fig.	Voltage V	Current A	Luminous flux lm	Base	Max. length	Dia.	Ordering number
7995D	—	1,5	0,5	3	E10	29	10	9235 574 013 ..
8096D	—	2,5	0,5	6,25	E10	29	10	9235 571 032 ..
8041D	—	4	0,1	1,5	E10	29	10	9235 421 063 ..
8023D	1	6	0,18	6	E10	24	11	9235 474 101 ..
8023N	2	6	0,18	6	BA9s	24	11	9235 473 101 ..
7999D	1	6,3	0,1	2	E10	24	11	9235 431 112 ..
8073D	—	6,3	0,1	2	E10	29	10	9235 421 112 ..
8008D ¹⁾	—	6,3	0,15	5,5	E10	29	10	9235 454 112 ..
8008N ²⁾	—	6,3	0,15	5,5	BA9s	30	10	9235 452 112 ..
8009D ³⁾	—	6,3	0,25	10	E10	29	10	9235 497 112 ..
8009N ⁴⁾	—	6,3	0,25	10	BA9s	30	10	9235 495 112 ..
8024D	—	6,3	0,3	12	E10	29	10	9235 512 112 ..
8024N	—	6,3	0,3	12	BA9s	30	10	9235 510 112 ..
8045D	—	6,3	0,32	12	E10	29	10	9235 534 112 ..
8091D	—	6,3	0,64	20	E10	29	10	9235 591 112 ..
7996D	—	7	0,3	12	E10	29	10	9235 516 126 ..
7994N	2	7,2	0,1	2,1	BA9s	24	11	9235 433 131 ..
8034D	—	10	0,2	9	E10	29	10	9235 481 158 ..
8003D	—	12	0,1	4	E10	29	10	9235 421 171 ..
8089D	1	12	0,1	7	E10	24	11	9235 431 171 ..
8089N	2	12	0,1	7	BA9s	24	11	9235 429 171 ..
8004D	—	15	0,2	17	E10	29	10	9235 477 185 ..
8005D	—	18	0,1	6	E10	29	10	9235 421 193 ..
8097D	—	19	0,1	6	E10	29	10	9235 416 195 ..

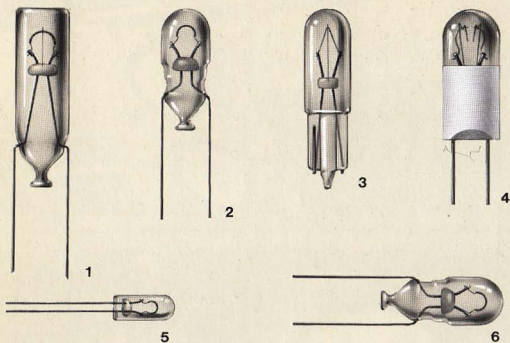
1) American equivalent type 40.

3) American equivalent type 46.

2) American equivalent type 47.

4) American equivalent type 44.





MINIATURE INDICATOR LAMPS

T1³/₄ WIRE-TERMINAL TYPES (Fig. 2)

Inter-national type number	Voltage V	Current mA	Average luminous flux lm	Rated average life h	Max. length ¹⁾	Max. dia.	Ordering number
1728D	1,35	60	0,125	3000			9236 655 009 ..
1783D	2,5	200	2,5	1000			9236 683 032 ..
2169D	2,5	350	1,75	10000			9236 699 032 ..
1738D	2,7	60	0,5	6000			9236 723 036 ..
2158D	3	15	0,034	20000			9236 713 042 ..
2171D	4,5	120	0,56	25000			9236 664 072 ..
1730D ²⁾	6	40	0,5	10000			9236 671 101 ..
-	6	45	1,2	2000			9236 634 101 ..
1784D	6	200	4,27	1000			9236 685 101 ..
2180D	6,3	40	0,38	20000			9236 701 112 ..
1739D	6,3	75	2,9	1000			9236 726 112 ..
2181D	6,3	200	5	20000			9236 688 112 ..
2112D	6,3	200	6,9	5000	13,2	6	9236 682 112 ..
1869D	10	14	0,07	50000			9236 659 158 ..
2107D	10	40	1	5000			9236 718 158 ..
2174D ²⁾	12	40	1,25	5000			9236 702 171 ..
-	12	100	4	1000			9236 736 171 ..
2182D	14	80	3,4	15000			9236 665 183 ..
1705D ²⁾	14	80	6,3	1500			9236 667 183 ..
2162D	14	100	6,3	5000			9236 735 183 ..
2102D	18	40	2,7	1000			9236 715 193 ..
-	22	40	3,77	2000			9236 706 201 ..
2187D ²⁾	28	40	3,77	7000			9236 670 217 ..
1762D ³⁾	28	40	4,27	4000			9234 624 217 ..
1764D ²⁾	28	40	4,27	4000			9234 623 217 ..

¹⁾ Excluding 18 mm max. length leads.

²⁾ Max. lead length 27,4 mm.

³⁾ Also available in green, red and yellow.

T2**WIRE-TERMINAL TYPE (Fig. 1)**

This lamp can be manufactured to other electrical specifications on request, minimum ordering quantity 50 000 per specification.

International type number	Voltage V	Current mA	Average luminous flux lm	Rated average life h	Max. length ¹⁾	Max. dia.	Ordering number
-	4,5	140	0,75	25000	20,35	6,42 *	9236 679 101 ..

¹⁾ Excluding wire terminals, 25,4 mm max. length.

T1 (Fig. 5), T1^{1/4}, T1^{1/2} (Fig. 6)**WIRE-TERMINAL TYPES**

Manufactured on special request only.

Voltage range 2,5 V to 28 V for the T1 and T1^{1/4} types. Electrical characteristics of T1^{1/2} types the same as for the T1^{3/4} wire-terminal lamps.

T1^{1/2} WEDGE-BASE W2 x 4,6d TYPES (Fig. 3)

European technical type indication T5. Lamp specifications in accordance with DIN 49846.

International type number	Voltage V	Current mA	Wattage W	Average luminous flux lm	Rated average life h	Max. length	Max. dia.	Ordering number
6502	4		1	-	-			9237 236 063 ..
6522	6	30		0,45	1000			9237 260 101 ..
6521	6		1	6	1000			9237 237 101 ..
6515	7	35		0,5	1000			9237 244 126 ..
6223	7		1	5,5	1000	20	5	9237 235 126 ..
12522	12	30		0,9	1000			9237 260 171 ..
12521	12		1	4	1000			9237 237 171 ..
13522	24	30		2	1000			9237 260 205 ..
13521	24		1	3,85	1000			9237 237 205 ..

T1^{3/4} BI-PIN M23 BASE TYPES (Fig. 4)

International type number	Voltage V	Current mA	Average luminous flux lm	Rated average life h	Max. length ¹⁾	Max. dia.	Ordering number
7375	3	15	0,034	20000			9236 734 042 ..
7380	6,3	40	0,38	20000			9236 744 112 ..
7377	6,3	75	2,9	1000			9236 742 112 ..
7381	6,3	200	5	20000			9236 745 112 ..
7349	6,3	200	6,9	5000	15,9	5,7	9236 729 112 ..
7344	10	14	0,07	50000			9236 728 158 ..
7367	10	40	1	5000			9236 733 158 ..
7382	14	80	3,4	15000			9236 790 183 ..
7370	18	40	2,7	1000			9236 739 193 ..
7327	28	40	4,27	1000			9236 770 217 ..

¹⁾ Excluding 6,75 mm max. length pins.



1



2



3

MIDGET LAMPS

Top-quality midget lamps for today's miniaturized equipment. Grooved, screw or flanged base types to internationally agreed standards, as recorded at the American National Standards Institute.

T1³/₄ MIDGET GROOVED-BASE TYPES (Fig. 1)

Inter-national type number	Voltage V	Current mA	Average luminous flux lm	Rated average life h	Max. length	Max. dia.	Ordering number
698	1,35	60	0,125	3000			9236 656 009 ..
-	6	40	0,5	10000			9236 724 101 ..
337	6	200	4,27	1000			9236 686 101 ..
379	6,3	200	5	20000			9236 691 112 ..
398	6,3	200	6,9	5000			9236 687 112 ..
709	10	14	0,07	50000	15,7	5,84	9236 675 158 ..
397	10	40	1	5000			9236 717 158 ..
386	14	80	3,4	15000			9236 669 183 ..
336	14	80	6,3	1500			9236 730 183 ..
346	18	40	2,7	1000			9236 707 193 ..
457	22	40	3,77	2000			9236 705 201 ..
388	28	40	3,77	7000			9236 673 217 ..

T1³/₄ MIDGET SCREW-BASE TYPES (Fig. 2)

Inter-national type number	Voltage V	Current mA	Average luminous flux lm	Rated average life h	Max. length	Max. dia.	Ordering number
1767	2,5	200	2,5	1000			9236 746 032 ..
342	6	40	0,5	10000			9236 719 101 ..
1768	6	200	4,27	1000			9236 747 101 ..
378	6,3	200	5	20000	17	5,9	9236 748 112 ..
12925	12	100	4	1000			9236 306 171 ..
12926	12	125	5,25	1000			9236 309 171 ..
373	14	80	6,3	1500			9236 732 183 ..
335	28	40	4,27	4000			9236 708 217 ..

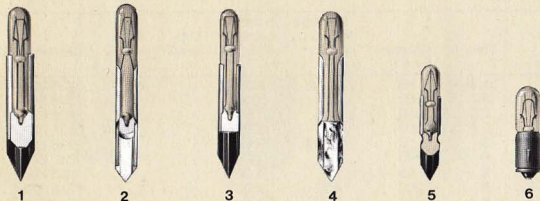
T13/4 SINGLE-CONTACT MIDGET FLANGED-BASE TYPES (Fig. 3)

Fit into tubes of 6,35 mm dia., 26 mm length.

International type number	Voltage V	Current mA	Average luminous flux lm	Rated average life h	Max. length ¹⁾	Max. dia.	Ordering number
331	1,35	60	0,125	3000			9236 654 009 ..
368	2,5	200	2,5	1000			9236 684 032 ..
268	2,5	350	1,75	10000			9236 698 032 ..
338	2,7	60	0,5	6000			9236 722 036 ..
375	3	15	0,034	20000			9236 750 042 ..
345	6	40	0,5	10000			9236 648 101 ..
-	6	45	1,2	2000			9236 709 101 ..
328	6	200	4,27	1000			9236 602 101 ..
380	6,3	40	0,38	20000			9236 700 112 ..
377	6,3	75	2,9	1000			9236 725 112 ..
349	6,3	200	6,9	5000			9236 681 112 ..
381	6,3	200	5	20000			9236 689 112 ..
344	10	140	0,07	50000			9236 658 158 ..
367X	10	40	1	5000	15,8	5,7	9236 716 158 ..
394	12	40	1,25	5000			9236 703 171 ..
-	12	100	4	1000			9236 737 171 ..
330	14	80	6,3	1500			9236 635 183 ..
382	14	80	3,4	15000			9236 668 183 ..
370	18	40	2,7	1000			9236 704 193 ..
459	22	40	3,77	2000			9236 775 201 ..
387	28	40	3,77	7000			9234 627 217 ..
385 ²⁾	28	40	1,88	20000			9236 714 217 ..
327	28	40	4,27	4000			9234 625 217 ..
327R	28	40	0,37	4000			9236 721 217 ..
327AS15	28	40	4,27	4000			9236 774 217 ..
334	28	40	4,27	4000			9236 628 217 ..
357	28	60	7,54	1000			9236 657 217 ..
-	28	80	12	1000			9236 731 217 ..

¹⁾ Excluding flange (max. diameter 7,37 mm).

²⁾ Max. length 19,5 mm.



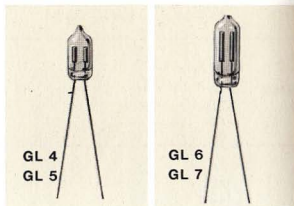
TELEPHONE LAMPS

A wide range of high-quality lamps for telephony applications. Manufactured to specification DIN 49838 in Bell, Ericsson, NAWI, BSI, GPO no. 2, BA7s and Bell Lilliput types. The miniature versions, BA7s and Bell Lilliput are also extremely useful for incorporation in such devices as push-buttons and intercom equipment.

Type	Voltage V	Current mA	Base	Max. dia.	Max. length	Fig.	Ordering number
	6	20					9236 110 101 ..
	6	40					9236 140 101 ..
	12	30					9236 120 171 ..
	12	40					9236 140 171 ..
	12	52					9236 180 171 ..
	12	100					9236 200 171 ..
	18	100					9236 200 193 ..
	24	25					9236 115 205 ..
	24	35					9236 130 205 ..
	24	40					9236 140 205 ..
	24	45					9236 165 205 ..
	24	50					9236 170 205 ..
	24	60					9236 190 205 ..
Bell	24	100	T6,8	6,6	46,5	1	9236 200 205 ..
	28	40					9236 140 217 ..
	28	45					9236 165 217 ..
	30	25					9236 115 221 ..
	30	40					9236 140 221 ..
	36	45					9236 165 233 ..
	48	20					9236 110 251 ..
	48	30					9236 120 251 ..
	48	40					9236 140 251 ..
	48	45					9236 165 251 ..
	48	100					9236 200 251 ..
	60	20					9236 110 264 ..
	60	35					9236 130 264 ..
	60	40					9236 140 264 ..
	60	55					9236 181 264 ..

Type	Voltage V	Current mA	Base	Max. dia.	Max. length	Fig.	Ordering number
NAWI	7	40	T6,6	6	46	2	9236 141 126 ..
	15	40					9236 141 185 ..
	20	40					9236 141 197 ..
	30	40					9236 141 221 ..
	30	100					9236 201 221 ..
	45	40					9236 141 248 ..
	60	40					9236 141 264 ..
Ericsson RING	6	40	T5,8	5,3	43	3	9236 145 101 ..
	6	75					9236 199 101 ..
	12	20					9236 112 171 ..
	12	50					9236 172 171 ..
	24	20					9236 112 205 ..
	24	40					9236 145 205 ..
	24	60					9236 191 205 ..
	36	20					9236 112 233 ..
	36	35					9236 131 233 ..
	36	50					9236 172 233 ..
	48	20					9236 112 251 ..
	48	30					9236 122 251 ..
	60	20					9236 112 264 ..
60	40	9236 145 264 ..					
BSI or GPO no. 2	4	250	T7	6,6	44,4	4	9236 255 063 ..
	6	41					9236 161 101 ..
	12	20					9236 106 171 ..
	12	50					9236 174 171 ..
	12	100					9236 208 171 ..
	17	45					9236 166 191 ..
	24	100					9236 208 205 ..
	40	75					9236 198 239 ..
	45	37					9236 235 248 ..
	50	45					9236 166 253 ..
	50	100					9236 215 253 ..
60	40	9236 152 264 ..					
Bell lilliput	6	20	T5,5	5,1	31	5	9236 107 101 ..
	6	40					9236 151 101 ..
	12	20					9236 109 171 ..
	12	50					9236 175 171 ..
	15	50					9236 173 185 ..
	24	20					9236 109 205 ..
	24	40					9236 150 205 ..
	24	50					9236 175 205 ..
	30	20					9236 109 221 ..
	30	40					9236 151 221 ..
	48	20					9236 109 251 ..
	48	40					9236 150 251 ..
	60	20					9236 109 264 ..
60	30	9236 123 264 ..					
BA7s	6	100	BA7s	6,6	24,7	6	9235 165 101 ..
	12	20					9235 161 171 ..
	12	50					9235 078 171 ..
	24	25					9235 042 205 ..
	24	50					9235 078 205 ..
	60	20					9235 160 264 ..

GLOW LAMPS



WIRE-TERMINAL ROD-ELECTRODE, STANDARD-BRIGHTNESS TYPES

Extremely effective miniature glow lamps for signalling, indication and stabilization. For innumerable wired-in applications. Very reliable minimum life (under correct circuit conditions) of 25000 hours (on the basis of useful life ending when brightness reduced by 30 per cent). Can also be supplied with standard or non-standard series resistor. GL 10 type gives quadrupled light output. A.C. or D.C. operation.

Type	Supply voltage A.C. or D.C. ¹⁾	Recommended series resistor k Ω	Design current mA	Max. length ²⁾	Max. dia.	Ordering number
GL 2	110-130 220-250 380	39 100 220	1,5	10	4	9282 212 000 ..
GL 4	110-130 220-250 380	180 470 820	0,33	12,5	6	8222 206 342 ..
GL 6	110-130 220-250 380	120 330 680	0,5	16	6	9282 201 000 ..
GL 8	110-130 220-250 380	120 330 680	0,5	19	6	9282 203 000 ..
GL 10	110-130 220-250 380	39 100 220	1,5	14	6	8222 206 338 ..

¹⁾ Min. starting voltage 65 V A.C., 90 V D.C.

²⁾ Excluding leads, lead length min. 25 mm.

WIRE-TERMINAL ROD-ELECTRODE, HIGH-BRIGHTNESS TYPES

The same dimensions and long life as the standard types, greatly increased brightness. Also available with standard or non-standard series resistors. A.C. operation.

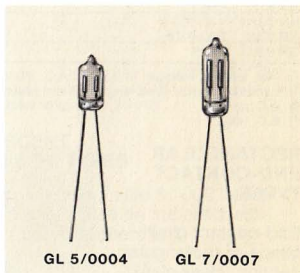
Type	Supply voltage A.C. ¹⁾	Recommended series resistor k Ω	Design current mA	Max. length ²⁾	Max. dia.	Ordering number
GL 3	110-130	68	0,8	10	4	8222 206 326 ..
	220-230	180				
	380	390				
GL 5	110-130	56	1,0	12,5	6	9282 202 000 ..
	220-230	150				
	380	330				
GL 7	110-130	39	1,5	16	6	9282 200 000 ..
	220-230	100				
	380	220				
GL 9	110-130	27	2,5	19	6	9282 204 000 ..
	220-230	68				
	380	150				
GL 11	110-130	39	1,5	14	6	8222 206 339 ..
	220-230	100				
	380	220				

¹⁾ Min. starting voltage 100 V.

²⁾ Excluding leads, lead length min. 25 mm.

WIRE-TERMINAL ROD-ELECTRODE, SUPER LONG-LIFE

Wire-terminal rod electrode glow lamps with a life of 80 000 hours. Light output over 70 per cent of that of standard wire-ended rod electrode types. Can also be supplied with standard or non-standard series resistor. A.C. operation.



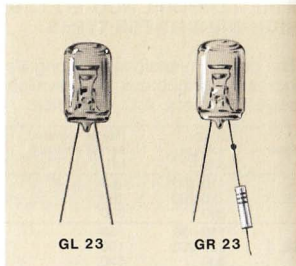
Type	Supply voltage A.C. V ¹⁾	Recommended series resistor k Ω	Design current mA	Max. length ²⁾	Max. dia.	Ordering number
GL 5/0004	110-130	56	1,0	12,5	6	8222 206 340 ..
	220-250	150				
	380	330				
GL 7/0007	110-130	39	1,5	16	6	9282 244 000 ..
	220-250	100				
	380	220				

¹⁾ Min. starting voltage 100 V.

²⁾ Excluding leads, lead length min. 25 mm.

WIRE-TERMINAL RING-ELECTRODE TYPES

Bright and reliable ring-electrode glow lamps for signal indication or stabilization in wired-in applications. Supplied with or without standard series resistors. For A.C. or 110-130 V D.C. operation.



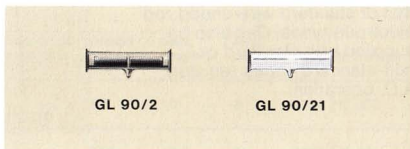
Type	Supply voltage V ¹⁾	Recommended series resistors k Ω	Design current mA	Max. length ²⁾	Max. dia.	Ordering number
GL 21/1	110-130 ³⁾	56	1,0	16	9	9282 255 000 ..
GL 21/2	> 220 ⁴⁾	56 (220 V) 120 (380 V)	2,0			9282 264 000 ..
GL 23/1	110-130 ³⁾	27	2,0	21	11,6	9282 300 000 ..
GL 23/2	> 220 ⁴⁾	47 (220 V) 120 (380 V)	2,5			9282 305 000 ..
GR 21/1	110-130 ³⁾	—	1,0	16	9	—
GR 21/2	220-230 ⁴⁾	—	2,0			—
GR 21/3	380 ⁴⁾	—	2,0			—
GR 23/1	110-130 ³⁾	—	2,0	21	11,6	9282 800 000 ..
GR 23/2	220-230 ⁴⁾	—	2,5			9282 801 000 ..
GR 23/3	380 ⁴⁾	—	2,5			—

- 1) Min. starting voltage: 110-130 V A.C.: 70 V; 110-130 V D.C.: 100 V; > 220 V: 200 V.
 2) Excluding leads, lead length without resistor min. 25 mm, with resistor min. 45 mm.
 3) A.C. or D.C.
 4) A.C. only.

RECTANGULAR END-CONTACT TYPES

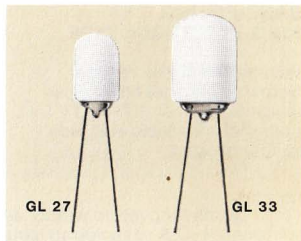
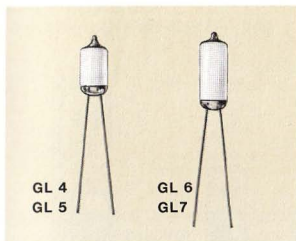
End-contact glow lamps of rectangular section, clear glass (GL 90/2) or fluorescent green. (GL 90/21).

Electrodes positioned for directional light output. A.C. operation.



Type	Supply voltage A.C. V ¹⁾	Recommended series resistor k Ω	Design current mA	Max. length	Max. dimensions end-contacts	Ordering number
GL 90/2	> 220	27 (220 V)	4,0	28,5	7,9	9282 254 000 ..
GL 90/21	> 220	30 (240 V)	3,5	28,5	7,9	9282 259 117 ..

¹⁾ Min. starting voltage 187 V.



WIRE-TERMINAL GREEN FLUORESCENT STANDARD-BRIGHTNESS TYPES

Green fluorescent miniature signal or indicator glow lamps. Minimum life 10 000 hours. Can also be supplied with standard or non-standard series resistors. A.C. operation.

Type	Supply voltage A.C. V ¹⁾	Recommended series resistor k Ω	Design current mA	Max. length ²⁾	Max. dia.	Ordering number
GL 4/11	110-130	33				
GL 4/21	220-250	82	2	12,5	6	8222 206 343 ..
GL 4/31	380	180				
GL 6/11	110-130	22				
GL 6/21	220-250	56	2	16	6	9282 309 117 ..
GL 6/31	380	120				
GL 10/11	110-130	33				
GL 10/21	220-250	82	3	14	6	8222 206 344 ..
GL 10/31	380	180				

¹⁾ Min. starting voltage 100 V. ²⁾ Excluding leads, lead length min. 25 mm.

WIRE-TERMINAL GREEN FLUORESCENT HIGH-BRIGHTNESS, EXTRA LONG-LIFE TYPES

Very bright green fluorescent glow lamps. Minimum life 30 000 hours (GL 5, 7, 11) or 10 000 hours (GL 27, 33). Can also be supplied with standard or non-standard series resistors. A.C. operation.

Type	Supply voltage A.C. V ¹⁾	Recommended series resistor k Ω	Design current mA	Max. length ²⁾	Max. dia.	Ordering number
GL 5/21	220-250	120				
GL 5/31	380	330	0,8	12,5	6	9282 308 117 ..
GL 7/21	220-250	82				
GL 7/31	380	220	1,2	16	6	9282 206 117 ..
GL 11/21	220-250	120				
GL 11/31	380	330	0,8	14	6	8222 206 345 ..
GL 27/21	220-250	82				
GL 27/31	380	220	1,1	18,5	10	9282 206 117 ..
GL 33/21	220-250	47				
GL 33/31	380	120	2,0	22	14	9282 390 117 ..

¹⁾ Min. starting voltage 187 V. ²⁾ Excluding leads, lead length min. 25 mm.

BASE-FITTING RING-ELECTRODE TYPE

With built-in series resistor.
Screw or bayonet fitting glow
lamps for A.C. or 100-130 V D.C.
operation. Available in a wide
variety of sizes.



GR 31



GR 35

Type	Supply voltage V ¹⁾	Design current mA	Base	Max. length	Max. dia.	Ordering number
GR 25 D/1	110-130 ²⁾	1	EX10	25	10	9282 720 000 ..
GR 25 N/1			BA9s			9282 725 000 ..
GR 25 D/2	220-230 ³⁾	2	EX10			9282 721 000 ..
GR 25 N/2			BA9s			9282 726 000 ..
GR 25 D/3	380 ³⁾	0,8	EX10			9282 722 000 ..
GR 25 N/3			BA9s			9282 727 000 ..
GR 29 D/1	110-130 ²⁾	1	EX10	28	10	9282 750 000 ..
GR 29 N/1			BA9s			9282 755 000 ..
GR 29 D/2	220-230 ³⁾	2	EX10			9282 751 000 ..
GR 29 N/2			BA9s			9282 756 000 ..
GR 29 D/3	380 ³⁾	0,8	EX10			9282 752 000 ..
GR 29 N/3			BA9s			9282 757 000 ..
GR 31 M/1	110-130 ²⁾	2	E14	30	14	9282 815 000 ..
GR 31 W/1			B15d			9282 820 000 ..
GR 31 X/1	BA15d	—				
GR 31 M/2	220-230 ³⁾	2,5	E14			9282 816 000 ..
GR 31 W/2			B15d	9282 821 000 ..		
GR 31 X/2	380 ³⁾	0,9	BA15d			—
GR 31 M/3			E14	9282 817 000 ..		
GR 31 W/3	380 ³⁾	0,9	B15d			9282 822 000 ..
GR 31 X/3			BA15d			—
GR 35 M/1	110-130 ²⁾	2	E14	54	16	9282 950 000 ..
GR 35 W/1			B15d	52		9282 955 000 ..
GR 35 M/2	220-230 ³⁾	3,5	E14	54		9282 951 000 ..
GR 35 W/2			B15d	52		9282 956 000 ..
GR 35 M/3	380 ³⁾	2	E14	54		9282 952 000 ..
GR 35 W/3			B15d	52		9282 957 000 ..
GR 37 E/1	110-130 ²⁾	3,5	E27	62	29	9283 000 005 ..
GR 37 B/1			B22	58		9283 000 000 ..
GR 37 E/2	220-230 ³⁾	7	E27	62		9283 000 006 ..
GR 37 B/2			B22	58		9283 000 001 ..
GR 37 E/3	380 ³⁾	3,5	E27	62		—
GR 37 B/3			B22	58		—

¹⁾ Min. starting voltage 110-130 V D.C.: 70 V; 110-130 V A.C.: 100 V; > 220 V: 200 V.

²⁾ A.C. or D.C.

³⁾ A.C. only.

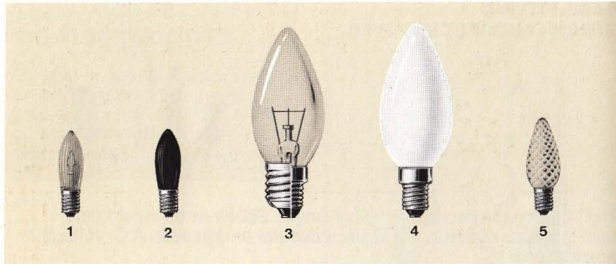
BASE-FITTING GREEN FLUORESCENT TYPE



High-brightness fluorescent glow lamps. Screw or bayonet fitting, built-in series resistor. For many industrial or domestic A.C. voltage applications.

Type	Supply voltage A.C. V ¹⁾	Design current mA	Base	Max. length	Max. dia.
GR 27D/21	220-230	1,1	EX10	26	10
GR 27N/21	220-230	1,1	BA9s	26	10
GR 27D/31	380	0,9	EX10	26	10
GR 27N/31	380	0,9	BA9s	26	10
GR 33M/31	220-230	2,0	E14	30	14
GR 33M/31	380	0,9	E14	30	14

¹⁾ Min. starting voltage 187 V.



FESTIVE ILLUMINATION LAMPS

Small, low power consumption series-burning lamps in a variety of shapes and colours. Short-circuiting device to prevent total failure when one lamp burns out. For applications including decorative designs, special effects in homes, theatres, restaurants, etc.

Shape	Fig.	Colour	Voltage V	Wattage or current	Base	Max. length	Max. dia.	Ordering number
Dwarf-candle ¹⁾	1-2	clear	7	1,5 W	E10	47	14,1	9235 965 126 ..
		blue						9235 966 126 ..
		yellow						9235 967 126 ..
		green						9235 968 126 ..
		red						9235 969 126 ..
	1-2	clear	14	3 W	E10	47	14,1	9236 010 183 ..
		blue						9236 011 183 ..
		yellow						9236 012 183 ..
		green						9236 013 183 ..
		red						9236 014 183 ..
	1-2	clear	18	0,1 A	E10	47	14,1	9235 950 193 ..
		blue						9235 951 193 ..
		yellow						9235 952 193 ..
		green						9235 953 193 ..
		red						9235 954 193 ..
	1-2	clear	23	3 W	E10	47	14,1	9236 010 203 ..
		blue						9236 011 203 ..
		yellow						9236 012 203 ..
		green						9236 013 203 ..
		red						9236 014 203 ..
1-2	clear	34	0,1 A	E10	47	14,1	9235 950 229 ..	
	blue						9235 951 229 ..	
	yellow						9235 952 229 ..	
	green						9235 953 229 ..	
	red						9235 954 229 ..	

¹⁾ Ribbed bulb.

Shape	Fig.	Colour	Voltage V	Wattage or current	Base	Max. length	Max. dia.	Ordering number					
Candle ¹⁾	3-4	clear	14	4 W	E14	98,5	36	9215 050 183 ..					
		inside-frosted						9215 051 183 ..					
		blue						9216 260 183 ..					
		yellow						9216 261 183 ..					
		green						9216 262 183 ..					
		red						9216 263 183 ..					
		clear						9215 060 183 ..					
clear	18	7 W	E14	98,5	36	9215 050 193 ..							
clear	24	4 W	E27	98,5	36	9215 052 205 ..							
Pine- apple	5	clear	7	1,5 W	E10	53	18,5	9235 975 126 ..					
		blue						9235 976 126 ..					
		yellow						9235 977 126 ..					
		green						9235 978 126 ..					
		red						9235 979 126 ..					
		clear						18	0,1 A	E10	53	18,5	9235 940 193 ..
		clear						14	3 W	E10	53	18,5	9236 020 183 ..
blue	9236 021 183 ..												
yellow	9236 022 183 ..												
green	9236 023 183 ..												
red						9236 024 183 ..							

¹⁾ For outdoor illumination sets.