



## Energy and cost saving options for MAX MÜLLER light fittings: Switches, push-buttons and timers



Type L 20 dHVsp, 20 W, 115 V, Ex d IIC T5, Ex tD A21 IP65 T95°C, Ex II 2 G + D, equipped with timer "V"



Type PEL 50 deHV, 50 W, 230 V, Ex de IIC T4, Ex tD A21 IP65 T130°C, Ex II 2 G + D, equipped with timer "V"



Timer for remote operation "U3", Ex de IIC T6, Ex tD A21 IP65 T80°, Ex II 2 G + D



Type KL 20 HE sp, 20 W, 240 V, equipped with ON-OFF-switch "E"

As a means both of saving energy and reducing the overhead costs involved in bulb changes, MAX MÜLLER AG have for 30 years been considering possible ways of reducing the period of time that sightglass light fittings are unnecessarily switched on. Using one of the following systems to limit this period, the bulb life may be effectively increased and the concomitant costs of downtime thereby decreased. (Please refer to the table overleaf for standard options.)

- **Built-in ON-OFF-switch "E":**

Most of our safe area light fittings may be equipped with an ON-OFF-switch built into the housing of the luminaire. Type designation is "E".

- **Built-in momentary push-button "D":**

Some hazardous (Ex), and most of our safe area luminaires may be delivered with a **built-in** push-button, type designation "D". The luminaire is on only while the button is pressed.

- **Built-in timer "V":**

The timers of the designation "V" are available on certain luminaires to provide a timed operation period of 3 or 15 minutes. The timers are actuated by a mechanism located **on** the lighthousing. There must, therefore, for action be direct access to the light fitting. The required period of operation must be stated at the time of order.

- **Built-in timer for remote operation "U":**

Timers of the series "U" are used for **remote operation** of hazardous and safe area light fittings, from a control panel or switchboard, or in cases where direct access to the housing of the light fitting is not possible. This type of timer, located **inside** the lighthousing, requires for operation an interrupting (opening) push-button wired **at any position** into the supply cable and acting **only** on the phase of the electrical supply. The timer "U" is available for a period of operation of 3 or 15 minutes. The required period of operation must be stated at the time of order.

- **External timers for remote operation "U3":**

This series of timers for **remote operation** in hazardous areas are a complete timer system in themselves contained in a polyester housing rated IP 65. They are thus eminently suitable for converting existing lighting installations without controls to a timed operation. They may be wired at any position into the electrical supply of a light fitting and offer a time period of ca. 5 minutes. For more technical details see data sheet timers "U3".

- **External ON-OFF-switch for remote operation "E1":**

This series "E1" is used for the **remote switching** of safe area light fittings. A switch and, depending on the supply voltage and that of the light fitting, a suitable transformer are built into a Macrolon housing, protection rated IP 65, which may then be located at any position into the electrical supply to the light fitting.

- **External push-button for remote operation "D1":**

Similar to the "E1" series in application and location, the ON-OFF-switch is replaced with a push-button.

- **External timer for remote operation "U1":**

This series of timers "U1" for use with safe area light fittings allow a timed operation period of 3 or 15 minutes, via a remote Macrolon box protection rated IP 65 which, depending on the supply voltage and that of the light fitting, may also contain a suitable transformer. The timed operation period required must be stated at the timer of order.



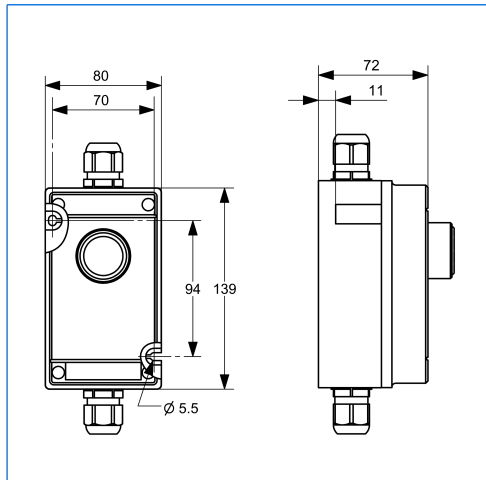
# MAX MÜLLER AG

Europe's largest sightglass light fitting programme!  
Perfect, thoroughly engineered solutions from one hand!  
Always an interesting, technically advanced idea ahead!

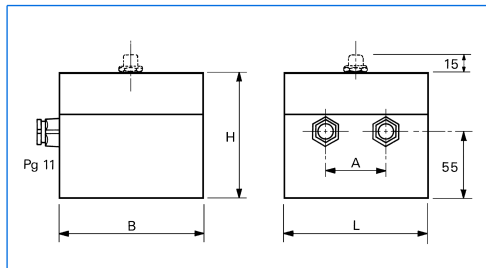


# Survey of standard options

## Dimensioned drawings



Timer "U3"



Series	Power (W)	L	B	H	A
E1	20	82	80	85	30
	50 / 100	122	120	105	50
D1	20	82	80	85	30
	50 / 100	122	120	105	50
U1	20 / 50 / 100	122	120	105	50

Timer "E1" / "D1" / "U1"

Branch office / exclusive agent:

Terminal voltage (V)	Option	12	24	36	42	120	230	240
<ul style="list-style-type: none"> <li>L 20 deH</li> <li>▲ 100 deH</li> <li>* R 50 deH</li> <li>■ R 100 deH</li> <li>● F 20 dH</li> </ul>	D	*	● * ■	●	●	●	●	●
	V	*	● * ■	●	●	●	●	●
	U	* ●	● * ■ ●	* ●	* ●	* ●	* ●	* ●
	U3		● * ■			● ●	● ●	● ●
	U3		● * ▲			● ▲	● ▲	● ▲
<ul style="list-style-type: none"> <li>● (F)KEL 5 / 10 dH / deH</li> <li>▲ (F)KEL 20 dH / deH</li> <li>* (F)KEL 50 dH / deH</li> </ul>	U	● ▲	▲					
	U3		● * ▲			● ▲	● ▲	● ▲
	D	●	●	●	●	● ■	● * ■ ▲	● * ■ ▲
	V	●	●	●	●	● ■	● * ■ ▲	● * ■ ▲
	U	●	●	●	●	● ■	● * ■ ▲	● * ■ ▲
<ul style="list-style-type: none"> <li>■ (F)HEL d LED-S</li> <li>■ (F)HEL d LED-F</li> </ul>	U3		●			● ■	● * ■ ▲	● * ■ ▲
	D	● *	● * ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	V	● *	● * ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	U	● *	● * ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	U3		● * ▲			● ▲	● ▲	● ▲
<ul style="list-style-type: none"> <li>● EdEx 5 dH / 10 dH / LED</li> <li>▲ EdEx 20 dH</li> <li>* EdEx G 20 dH / 50 dH</li> <li>■ fibroLUX E 5035</li> <li>● fibroLUX E 5050</li> </ul>	U3		● * ■			● * ■	● * ■	● * ■
	E	● ▲	● ▲	●	●	●	●	●
	E1	● * ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲
	D	● * ■ ▲	● * ■ ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	D1	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲
<ul style="list-style-type: none"> <li>● KLR 05 / 10 H</li> <li>▲ KLR 20 H</li> <li>* KLR 50 H</li> <li>■ KLR 100 H</li> </ul>	U1	● * ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲
	E	●	● * ▲					
	E1	●	● * ▲	●	●	●	●	●
	D	●	● * ▲					
	D1	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲
<ul style="list-style-type: none"> <li>● (B)KVLR 20H / HL 50 / 80 H / HLM(R) 65 / 80 / 100 H (Max. 20 W)</li> <li>▲ BKVLR LED</li> <li>* MVLR</li> </ul>	U1	●	● * ▲	●	●	●	●	
	E	▲	▲					
	E1	▲	▲	▲	▲	▲	▲	▲
	D	● ▲	● ▲					
	D1	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲
<ul style="list-style-type: none"> <li>● (B)KVLR 50 H</li> <li>▲ HL 100 H / HL 125 H / HLM(R) 125 H (Max. 50 W)</li> </ul>	U1	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	E	▲	▲					
	E1	▲	▲	▲	▲	▲	▲	▲
	D	● ▲	● ▲					
	D1	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲
<ul style="list-style-type: none"> <li>● (B)KVLR 100 H</li> <li>▲ HL 150 H / HL 200 H</li> </ul>	U1		● ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	E	● ▲	● ▲	●	●	● ●	● ●	● ●
	E1	● * ▲	● * ▲	● * ▲	● * ▲	● * ▲	● * ■ ▲	● * ■ ▲
	D	● * ▲	● * ▲	●	●	● ●	● ●	● ●
	D1	● * ▲	● * ▲	● * ▲	● * ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲
<ul style="list-style-type: none"> <li>● KL 20 H</li> <li>▲ KL 50 H</li> <li>* KL 100 H</li> <li>■ FHL 35 / 50 dH / FHL LED-S</li> <li>● FHL LED-F</li> </ul>	U	●	●					
	U1	● ▲	● * ▲	● * ▲	● * ▲	● * ■ ▲	● * ■ ▲	● * ■ ▲
	V					●	■	■
	E	● ▲	● ▲	●	●	●	●	●
	E1	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲
<ul style="list-style-type: none"> <li>● PL 20 / 50 H</li> <li>▲ PL 100 H</li> </ul>	D	● ▲	● ▲					
	D1	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲	● ▲
	V	●	●					
	U	●	●					
	U1	●	●	● ▲	● ▲	● ▲	● ▲	● ▲

All dimensions in mm. Subject to changes without preliminary notice.



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