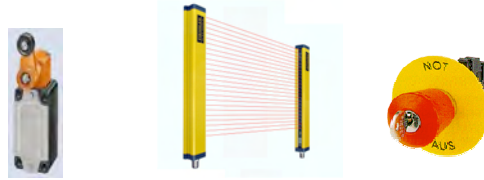


### Compact safety controller PLSG...K



**Compact safety controller type 4**

**Short reaction time 3,5 ms**

**Easy to program - no software needed**

**Contactor- or valve- control (EDM)**

**Cyclic control (PSDI) 1-4 cycle**

**Emergency-stop circuit monitoring**

**Optional safety relay output**

**Optional integrated LCD-Display**

**Muting, Blanking**



**Typ 4**  
EN 61496



DIN EN ISO 9001  
Reg.Nr. 96007



optional



#### Application

- Monitoring of hydraulic and mechanical presses
- Monitoring of revolving-transfer tables
- Monitoring of press brakes
- Monitoring of special purpose machines
- Access safeguarding of automatic production lines
- Monitoring of an access to a manufacturing cells
- Monitoring of palletisers
- conveyor or storage techniques



- no software required
- only selecting of already existing safety logic arrays via hex switches
- shortest commissioning times
- fast replacement in case of error
- Savings of additional safety control unit for
  - Emergency-stop circuit, safety gate switches,
  - two hand control
  - or
  - cyclic control

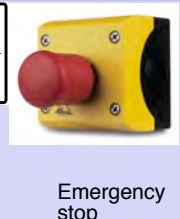
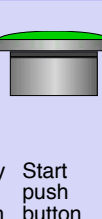
#### Technical data

<b>Safety category</b>	4 according EN 954-1 and EN 61496-1
<b>Protection type / housing size</b>	IP 40 housing, IP 20 terminals 83,5mm x 90mm x 119mm (W x L x H) tophat rail mounting
<b>Ambient operating temperature</b>	-10 to 55 °C
<b>Supply voltage</b>	24 V DC, ±20%,
<b>Current consumption</b>	Max. 250 mA
<b>Outputs</b>	<b>3 outputs</b> <b>OSSD1 and OSSD2:</b> Fail-safe PNP outputs, max. 0.5 A, monitored for short-circuit and cross-connections <b>OSSD3</b> (category 3 only with OSSD1 and OSSD2): 2-channel control, PNP output, max. 0.5 A
<b>Electrical connection</b>	Plug-in terminal strips
<b>Max. response time</b>	After interruption of the light grid's protective field : 3.5 ms + XLVT response After interruption of the emergency-stop circuit: 30 ms if both circuits open, or 63 ms if only one circuit opens due to a defect <b>If OSSD 2 turn off delay is active: 0.5 s.</b>
<b>Inputs</b>	<b>12 - 16 inputs</b> depending on model 0V to 24 V DC +20% / 10 mA, (at least 15 V to allow detection of high levels).
<b>Externe Mutinglampe</b>	24V max. 0,5 A, min 50 mA
<b>Option ...R safety relays</b>	<b>8 outputs</b> Potential-free, monitored, force-guided switching contacts: 2 x 1 normally closed, 2 x 2 normally open and 2 x 2 normally open in series (1 normally open contact of each safety relay) max. 2 A / 250V AC or 60V DC, 30W; if an inductive load is employed, connect spark quenching elements
<b>Option ...S RS 485 interface</b>	9600 Baud, 8 Datenbit, 1 Startbit, 1 Stopbit

#### Device overview / Features / Applications

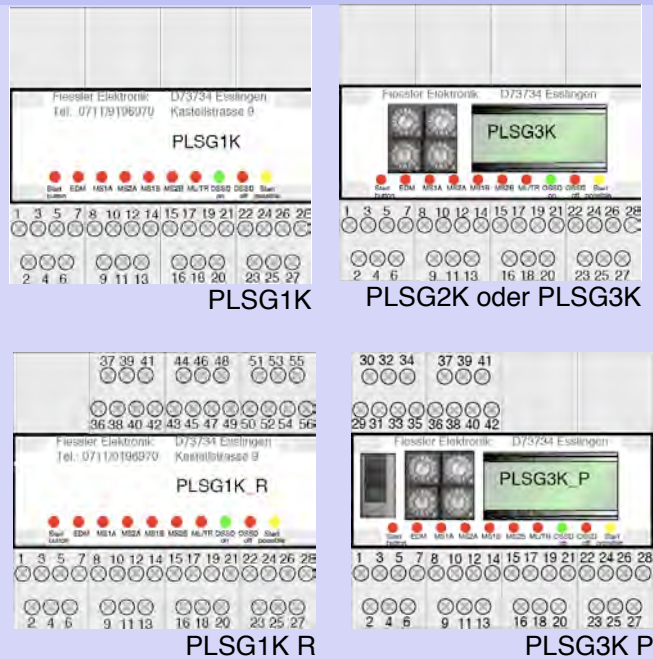


#### Connectable components:



Functions	PLSG1K	PLSG2K	PLSG3K	
<b>EDM</b> Contactor / valve control of subsequent switching elements	with	with / without	with / without	
<b>Restart interlock</b> Start enabled via a button	with	with / without	with / without	
<b>Restart interlock only during hazardous movement</b> (for example, during insertion operations)	-	-	.	<b>Infiltration of the protective field is possible during a standstill or non-hazardous movement without renewed enabling of start.</b> 2 outputs for external display: Protective field state and restart interlock
<b>PSDI</b> <b>Cyclic control</b> (for example, during insertion operations) with work time monitoring (30s or 120s)	-	-	.	<b>Cyclic infiltration of the protective field controls machine operation</b> 1-cycle, 2-cycle, 3-cycle or 4-cycle operation 2 outputs for external display: Protective field state and restart interlock
<b>Emergency-stop circuit monitoring</b> Guard doors, emergency-stop	-	-	.	
<b>Two-hand start</b> Start enabled via two-hand switch	-	-	.	
<b>2-stage output deactivation</b> Deactivation of control drives (for example, robots)	-	.	.	On interruption of the protective field, OSSD1 and OSSD3 switch off immediately and instructs the machine (for example, robot) to shut down within 0.5 s. After 0.5 s, OSSD2 safely deactivates the machine.
<b>Display</b> Status and error messages	-	.	.	2 x 8 character LCD
<b>BLVT light grid blanking functions</b> 11 protective-field blanking modes	-	-	.	<b>In case of one-time or infrequently modified blanking</b> Protective field blanking in the light grid is performed through one-time programming with the hex switches after a voltage reset. The blanking function remains saved in the light grid until new programming.
<b>Cross-Muting</b> Muting with two Muting sensors	.	.	.	<b>Brief bypass of the light grid is possible</b>
<b>Serial-Muting with 4 or more Muting sensors</b>	.	.	.	<b>Brief bypass of the light grid is possible</b>
<b>Muting</b> with muting time monitoring	.	.	.	<b>Brief bypass of the light grid is possible</b> If material comes to a stop in the muting zone, muting is deactivated or the light grid is activated after the muting time has elapsed.
<b>Delayed end of muting</b>	-	.	.	Manipulation-proof muting when material flows exclusively outward from the hazard zone. Muting sensors are located in the hazard zone.
<b>Stopping of Muting time monitoring</b>	-	.	.	Prevents the unwanted shut-off of the machine in case of material accumulation caused by exceeding the programmed Muting time.
<b>Immediate end of muting on clearing of the protective field</b>	-	.	.	The muted state persists only as long as absolutely necessary. If this function is active, there is no muting time limit.
<b>Override</b> (for example, on belt standstill) after unscheduled stop	.	.	.	
<b>Option ...R</b> 2 safety relays	.	.	.	Potential-free switching contacts: 4 NO, 2 NC, 2 x 2 NO in series (1 per relay)
<b>Option ...S</b> Serial output of display data	-	.	.	Serial output of messages RS 485 interface for status / error messages / 9600 baud, 1 start bit, 1 stop bit
<b>Option ...P</b> Selector switch operation	-	.	.	a) Storage and recall of up to 5 operating modes in the PLSG3K_P b) Storage and recall of up to 5 beam blanking types in the BLVT/BLCT light grid c) Storage and recall of up to 5 operating modes in the PLSG3K_P; storage and recall of up to 5 beam blanking types in the BLVT/BLCT light grid

#### Device overview (examples)



#### order number

article description	article no (code)
<b>PLSG 1K</b> for mounting in switch cabinet (top hat rail)	PLSG1K
<b>PLSG 1KR</b> for mounting in switch cabinet (top hat rail), with 2 safety relays.	PLSG1KR
<b>PLSG 2K</b> for mounting in switching box (top hat rail), programmable, with display	PLSG2K
<b>PLSG 2KR</b> for mounting in switch cabinet (top hat rail), programmable, with display, with 2 safety relays	PLSG2KR
<b>PLSG 2KP</b> for mounting in switch cabinet (top hat rail), programmable, with display, teach in of beam blanking BLVT	PLSG2KP
<b>PLSG 2KRS</b> for mounting in switch cabinet (top hat rail), programmable, with display, with 2 safety relays, serial output of display via RS 485	PLSG2KRP
<b>PLSG 2KRS</b> for mounting in switch cabinet (top hat rail), programmable, with display, with 2 safety relays, serial output of display via RS 485	PLSG2KRS
<b>PLSG 2KS</b> for mounting in switch cabinet (top hat rail), programmable, with display, serial output of display via RS 485	PLSG2KS
Safety control <b>PLSG 3K</b> for mounting in switch cabinet (top hat rail), programmable, with display	PLSG3K
Safety control <b>PLSG 3KR</b> , for mounting in switch cabinet (top hat rail), programmable, with display, with 2 safety relays	PLSG3KR
Safety control <b>PLSG 3KP</b> programmable for mounting in switch cabinet (top hat rail mounting), teach in of beam blanking BLVT	PLSG3KP
Safety control <b>PLSG 3KRP</b> programmable for mounting in switch cabinet (top hat rail), with 2 safety relays, teach in of beam blanking BLVT	PLSG3KRP
Safety control <b>PLSG 3KRS</b> programmable for mounting in switch cabinet (top hat rail mounting), with 2 safety relays, serial output of display via RS 485	PLSG3KRS
Safety control <b>PLSG 3KS</b> mounting in switch cabinet (top hat rail), programmable, with display, serial output of display via RS 485	PLSG3KS