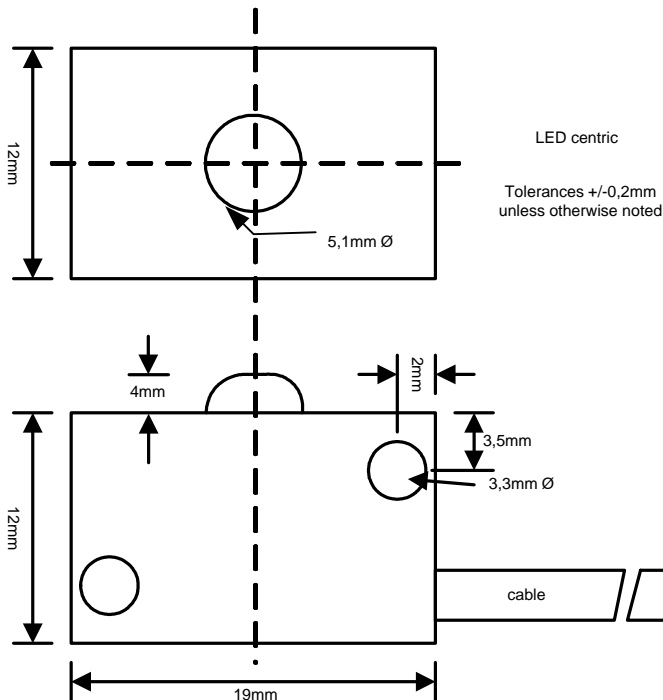
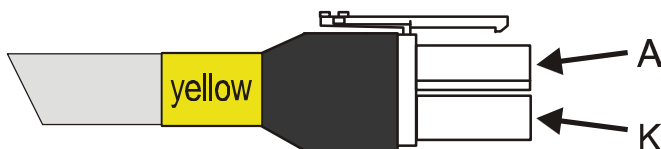


## SGHAR12 (Transmitter)



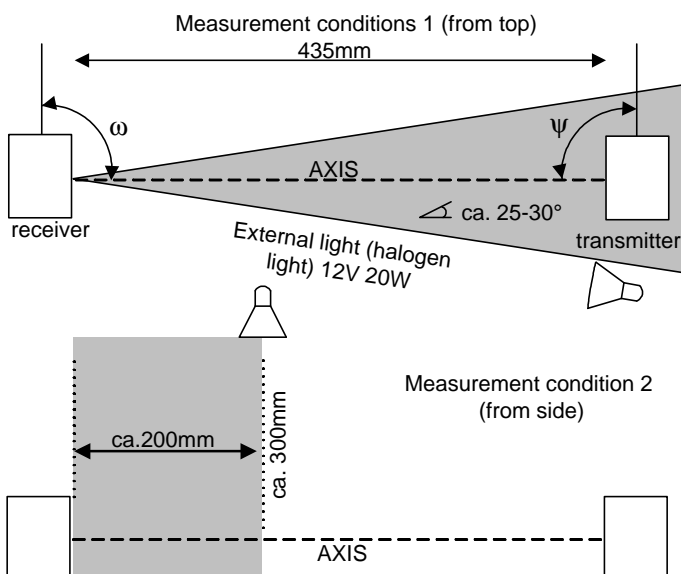
### Technical Data:

reverse voltage	$U_F$	max. 5V
forward current	$I_F$	max. 100mA
max. power	$P_V$	max. 210mW
temperature range	$T_{amb}$	-20°C...+80°C
wave length (peak) (max. of wave length)	$\lambda_p$	940nm
Halve angel	$\varphi$	$\pm 25^\circ$
cable length	$l_k$	4000 $\pm$ 50mm



### Connector:

connector type	Molex 39-01-2025
colour coding	yellow



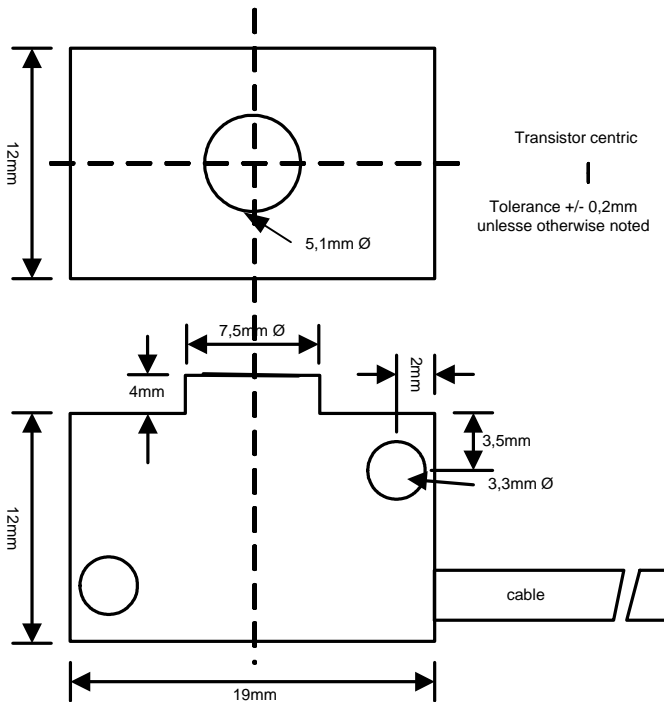
### Influence of external light:

The left figures show – under typical usage conditions – the limits under which the devices (consisting of SGHAR12 transmitter, SGHAR13 receiver, working at a SGHAR8 controller) will still work correctly ( $\rightarrow$  ext. light outside grey marked area).

### alignment error:

The function is only guaranteed, if the axis alignment error of receiver and transmitter will be less than  $10^\circ$  ( $\psi + \omega < 10^\circ$  !).

## SGHAR13 (Receiver)



### Technical Data:

voltage CE	$U_{CE}$	max. 35V
voltage EC	$U_{EC}$	max. 7V
collector current	$I_C$	max. 50mA
max. power	$P_{tot}$	max. 200mW
temperature range	$T_{amb}$	-20°...+80°C
wave length (peak) (max. sensitivity)	$\lambda_{s\ max}$	870nm
halve angel	$\varphi$	$\pm 25^\circ$
cable length	$l_k$	4000 $\pm$ 50mm

### Connector:

connector type	Molex 39-01-2025
colour coding	green

### Influence of external light:

The left figures show – under typical usage conditions – the limits under which the devices (consisting of SGHAR12 transmitter, SGHAR13 receiver, working at a SGHAR8 controller) will still work correctly (→ ext. light outside grey marked area).

### alignment error:

The function is only guaranteed, if the axis alignment error of receiver and transmitter will be less than 10° ( $\psi + \omega < 10^\circ$  !).

