

Your escalator – Our products

Catalogue 2016/2017



Safety reliably produced.

RLS Wacon
Electronics • Sensors • Fluid control systems

About us	3
Passenger detection system (IPS)	4
Overview.....	4
C-version for SCHINDLER and THYSSENKRUPP escalators	6
E-version for SCHINDLER and THYSSENKRUPP escalators.....	10
D-version for OTIS and KONE escalators.....	12
D-version (rev.) for OTIS and KONE escalators.....	14
Rotation speed monitors	16
RC3 for vertical mounting – 230 V.....	16
RC3 for horizontal mounting – 230 V.....	16
Speed indicator (MPRC).....	17
Radar sensors	18
Fixed sensitivity	19
Adjustable sensitivity.....	20
Precipitation sensors	21
IRSS88 and IRSS88T.....	21
Direction indicators (traffic lights)	22
Multi-purpose traffic light	22
Animated direction indicator (ELPB192).....	24
Traffic lights for square column or socket (75 mm diameter)	25
Traffic lights for square column or socket (60 mm diameter)	27
Traffic lights for square column or socket (35 mm diameter)	28
Traffic lights for balustrade (75 mm diameter).....	29
Traffic lights for balustrade (70 mm diameter).....	31
Traffic lights for balustrade (60 mm diameter).....	32
Traffic lights for round column (70 mm diameter)	34
Accessories and mounting material for direction indicators (traffic lights)	36
Comb lighting	37
Step gap lighting SL800	43
LED spots	44
LED spot (38 mm diameter)	44
LED spot (38 mm diameter, low power).....	44
LED spot (28 mm diameter)	45

About us

“RLS Wacon GmbH” is a family business based in Hildesheim, Germany.

For more than 40 years, we have been developing and manufacturing reliable metrology- and sensor technology equipment for demanding applications here in Germany.

The company 'RLS Wacon' goes back to the engineering company 'RUDOLPH', founded in 1974, which initially developed and produced devices for radio stations.



In 1989, 'Rudolph Logic Systems GmbH' developed from the former engineering company. This company specialised in products for the escalator industry. The light-curtain "C-version" was developed as a simple but robust solution for monitoring escalators. Its approved technology is well established in the market to date.

In 2008, “RLS innovations GmbH” took over the production and distribution of the entire product range of “Rudolph Logic Systems GmbH”.



“RLS innovations” consequently enhanced those products and extended the range - among others - by innovative lighting concepts for new applications and additional markets.



In the year 2009, “Wacon GmbH” became a part of the company, offering demanding products on the part of metrology- and sensor technology for water treatment applications. This led to the new and present company name “RLS Wacon GmbH”.

Our name may have changed over the years but our passion regarding our products and the courage to launch into something new have remained unchanged for decades.

Our demand is always to be in dialogue with you as our customer or partner to find a sturdy and safe solution for your application. Furthermore, we consequently set a high value on a high manufacturing depth in Hildesheim as well as on high quality products.

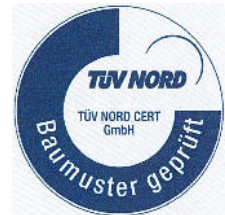
Thus, *safety is reliably produced.*

Passenger detection system (IPS)

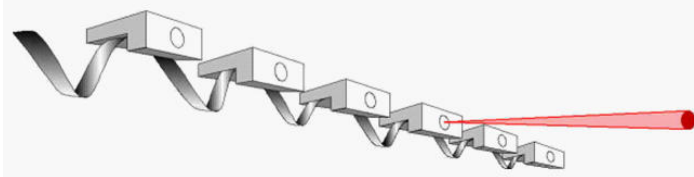
Overview

Light curtains (IPS) for escalators and moving walkways are used for automatic release of an escalator after pressing an emergency stop. The presence of people on the escalator is monitored in accordance with EN115. Currently, four different versions are offered, adapted for escalators from all manufacturers. A fifth version is under development.

- ▶ light curtain according to EN115:2008
- ▶ safety light curtain category 4 / SIL 3
- ▶ type-tested by TÜV
- ▶ no wear parts
- ▶ very low installation- and maintenance costs
- ▶ max. 99 light barriers for monitoring escalator with about 30 meter length
- ▶ self-monitoring
- ▶ self-configuring
- ▶ protection class: IP 67
- ▶ temperature range: - 20 ... + 65 °C
- ▶ independent from ambient light
- ▶ display and output of fault messages
- ▶ standards: EN115:2008; EN61508 (SIL3), EN954-1 (category 4), EMC etc.



The light curtain consists of transmitter and receiver modules. The modules are connected with each other by cable (D- and E-version) or to pipes as chains (C and MO-version). Depending on the escalator type, different module types are available. It applies to all light curtains that up to 99 modules per escalator side are possible. For longer moving walkways, correspondingly two IPS are used.









An end module on the transmitter and receiver side respectively forms the completion of a light curtain.

The analysis is carried out in the central unit TLCU, which is connected to the transmitter- and receiver chains via an adapter cable.



Passenger detection systems (IPS)

This overview of various modules helps you to find the suitable version for your application.

Escalator manufacturer	Version 1	Version 2	Version 3
	C-version	E-version	E-version (rev.)
SCHINDLER THYSSENKRUPP	 page 6 – 9	 page 10 – 11	 <i>under development</i>
	MO-version	D-version	D-version (rev.)
KONE OTIS	 <i>discontinued</i>	 page 12 – 13	 page 14 – 15

C-version

The modules of this version are screwed onto cables of different lengths. Thus, you can obtain 9-, 10- or 11 transmitter- and receiver chains, which are connected together by connecting modules to light curtains with up to 99 light barriers. An inactive end module on the transmitter and receiver side respectively forms the completion.

E-version

This version is based on the proven C-version. The light curtain consists of up to 99 light barriers, each consisting of transmitter and receiver modules. The individual modules can be easily connected with plug connectors for long module strings. Separate connection lines are not required. This results in a low risk of failure. Individual modules can be easily and quickly replaced.

E-version (rev.)

Due to the great success, the E-version is currently revised to achieve further cost savings. Here, the functionality and safety of the existing E-version will be reached again. The optimisation is in the range of the manufacturing process and the availability of longer chains.

MO-version

This version was the first light curtain worldwide that has been tested by the TÜV type examination. Meanwhile, this version has been discontinued. On request, spare parts are still available (delivery of MO light curtain components are without warranty).

Escalators with light curtains of the type MO can be updated with the D version.

Adapter modules, which can easily be connected to the already lying adapter cable from the previous version, are available for this and thus make their replacement unnecessary. Only the transmitter- and receiver modules of the new version must be used.

D-version

The D-version of light curtain offers an improved connection system that simplifies installation, maintenance and repair compared to the MO-version.

D-version (rev.)

This is a cost-optimised variant of the D-version, which has the same level of functionality and safety of all light curtains. The optimisation is in the range of the manufacturing process and the availability of longer chains.

Passenger detection system (IPS) – C-version

C-version for SCHINDLER and THYSENKRUPP escalators

The modules of this version are screwed onto cables of different lengths. Thus, you can obtain 9-, 10- or 11 transmitter- and receiver chains, which are connected together by connecting modules to light curtains with up to 99 light barriers. An inactive end module on the transmitter and receiver side respectively forms the completion.



- ▶ original RUDOLPH design
- ▶ we recommend to use the E-version for new installations

The table below shows the configuration of complete IPS systems.

Light curtain / escalator	Cable sections	Module / sections							Connecting module adapter + n + end
		1.	2.	3.	4.	5.	6.	7.	
36	4	9	9	9	9				A + 3 + E
37	4	9	9	9	10				A + 3 + E
38	4	9	9	10	10				A + 3 + E
39	4	9	10	10	10				A + 3 + E
40	4	10	10	10	10				A + 3 + E
41	4	10	10	10	11				A + 3 + E
42	4	10	10	11	11				A + 3 + E
43	4	10	11	11	11				A + 3 + E
44	4	11	11	11	11				A + 3 + E
45	5	9	9	9	9	9			A + 4 + E
46	5	9	9	9	9	10			A + 4 + E
47	5	9	9	9	10	10			A + 4 + E
48	5	9	9	10	10	10			A + 4 + E
49	5	9	10	10	10	10			A + 4 + E
50	5	10	10	10	10	10			A + 4 + E
51	5	10	10	10	10	11			A + 4 + E
52	5	10	10	10	11	11			A + 4 + E
53	5	10	10	11	11	11			A + 4 + E
54	5	10	11	11	11	11			A + 4 + E
55	5	11	11	11	11	11			A + 4 + E
56	6	9	9	9	9	10	10		A + 5 + E
57	6	9	9	9	10	10	10		A + 5 + E
58	6	9	9	10	10	10	10		A + 5 + E
59	6	9	10	10	10	10	10		A + 5 + E
60	6	10	10	10	10	10	10		A + 5 + E
61	6	10	10	10	10	10	11		A + 5 + E
62	6	10	10	10	10	11	11		A + 5 + E
63	6	10	10	10	11	11	11		A + 5 + E
64	6	10	10	11	11	11	11		A + 5 + E
65	6	10	10	11	11	11	11		A + 5 + E
66	6	11	11	11	11	11	11		A + 5 + E
67	7	9	9	9	10	10	10	10	A + 6 + E
68	7	9	9	10	10	10	10	10	A + 6 + E
69	7	9	10	10	10	10	10	10	A + 6 + E
70	7	10	10	10	10	10	10	10	A + 6 + E
71	7	10	10	10	10	10	10	11	A + 6 + E
72	7	10	10	10	10	10	11	11	A + 6 + E
73	7	10	10	10	10	11	11	11	A + 6 + E
74	7	10	10	10	11	11	11	11	A + 6 + E
75	7	10	10	11	11	11	11	11	A + 6 + E

Example

For a light curtain with 58 light barriers, 2 chains each with 9 modules, 4 chains with 10 modules, 5 connecting modules, an adapter cable and an end module are respectively required for the transmitter- and receiver side according to the following table.

The spacing of the modules in the base plate must be less than 30 cm, in the bend area only 20 cm!

Passenger detection system (IPS) – C-version

Central unit / Adapter cable to be connected to the central unit TLCU22-04



Central unit for light curtains
TL04



Adapter cable (4 m)
transmitter
to be connected to the
central unit TLCU22-04



Adapter cable (4 m)
receiver
to be connected to the
central unit TLCU22-04



Adapter cable pair (4 m)
transmitter- and receiver-
to be connected to the
central unit TLCU22-04

Article description	Article number	Note
TLCU22-04 Central unit (RUDOLPH)	80-000 001	
TLX22-04/C Adapter cable transmitter (RUDOLPH)	80-000 017	
TLR22-04/C Adapter cable receiver (RUDOLPH)	80-000 016	
TLRX22-04/C Adapter cable pair (RUDOLPH)	80-000 010	

Transmitter and receiver / cables for corresponding modules



Transmitter



Transmitter cable



Receiver



Receiver cable

Article description	Article number	Note
TLX22-04/C Transmitter (RUDOLPH)	80-000 003	
TLX 9er Transmitter cable for 9 transmitters (RUDOLPH)	80-000 022	
TLX 10er Transmitter cable for 10 transmitters (RUDOLPH)	80-000 023	
TLX 11er Transmitter cable for 11 transmitters (RUDOLPH)	80-000 024	
Article description	Article number	Note
TLR22-04/C Receiver (RUDOLPH)	80-000 002	
TLR 9er Receiver cable for 9 receivers (RUDOLPH)	80-000 012	
TLR 10er Receiver cable for 10 receivers (RUDOLPH)	80-000 013	
TLR 11er Receiver cable for 11 receivers (RUDOLPH)	80-000 014	

Passenger detection system (IPS) – C-version

Connecting modules and end modules (not active) for transmitter- and receiver chains



Connecting module for transmitter chain



End module for transmitter chain



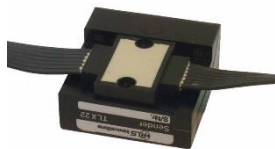
Connecting module for receiver chain



End module for receiver chain

Article description	Article number	Note
TL04TX/C Connecting module transmitter (RUDOLPH)	80-000 005	
TL04TX/C End module transmitter (RUDOLPH)	80-000 007	
Article description	Article number	Note
TL04RX/C Connecting module receiver (RUDOLPH)	80-000 004	
TL04RX/C End module receiver (RUDOLPH)	80-000 006	

Assembled chains consisting of cables with modules



Transmitter chain



Receiver chain

Article description	Article number	Note
TLX04/C 9er Transmitter chain (RUDOLPH)	80-000 042	
TLX04/C 10er Transmitter chain (RUDOLPH)	80-000 043	
TLX04/C 11er Transmitter chain (RUDOLPH)	80-000 044	
Article description	Article number	Note
TLR04/C 9er Receiver chain (RUDOLPH)	80-000 032	
TLR04/C 10er Receiver chain (RUDOLPH)	80-000 033	
TLR04/C 11er Receiver chain (RUDOLPH)	80-000 034	
Article description	Article number	Note
Passenger Detection System (IPS) TL04-C with xx light barriers (RUDOLPH) ^(A)	80-105 xx0	

^(A) Complete IPS system C-version, consisting of xx transmitters and xx receivers assembled on cables (= chains), adapter cables, connecting modules and end modules. Completely assembled. Central unit TLCU22-04 has to be ordered separately.

Passenger detection system (IPS) – C-version

Fittings



Angle bracket for C-modules, made of stainless steel. You need one bracket per module.

Article description	Article number	Note
Angle bracket TL04, stainless steel	55-000 122	

Conversion set from C-version to E-version

Escalators with light curtains of type C can be modernised with the E-version.

Adapter modules, which can easily be connected to the already lying adapter cable from the previous version, are available for this and thus make their replacement unnecessary. Only the transmitter- and receiver modules of the new version must be used.



Adapter
transmitter



Adapter
receiver

Article description	Article number	Note
Adapter for conversion C to E TL04TX/E-version transmitter	80-000 271	
Adapter for conversion C to E TL04RX/E-version receiver	80-000 272	

Passenger detection system (IPS) – E-version

E-version for SCHINDLER and THYSENKRUPP escalators

This version is based on the proven C-version. The light curtain consists of up to 99 light barriers, each consisting of transmitter and receiver modules. The individual modules can be easily connected with plug connectors for long module strings. Separate connection lines are not required. This results in a low risk of failure. Individual modules can be easily and quickly replaced.



- ▶ original RUDOLPH design
- ▶ extremely robust and weather-resistant
- ▶ improved connecting system
 - easy installation
 - higher durability
- ▶ no wear parts
- ▶ small quantity of components
- ▶ for replacement of IPS systems C-version

Central unit / Adapter cable to be connected to the Central unit TLCU22-04



Central unit for light curtains TL04



Adapter cable (4 m) transmitter to be connected to the central unit TLCU22-04



Adapter cable (4 m) receiver to be connected to the central unit TLCU22-04



Adapter cable pair (4 m) transmitter- and receiver to be connected to the central unit TLCU22-04

Article description	Article number	Note
TLCU22-04 Central unit (RUDOLPH)	80-000 001	
TL04-TLX-AK/E Adapter cable transmitter (RUDOLPH)	80-000 255	
TL04-TLR-AK/E Adapter cable receiver (RUDOLPH)	80-000 256	
TL04-TL-AK/E Adapter cable pair (RUDOLPH)	80-000 258	

Transmitter and Receiver



Transmitter



Receiver

Article description	Article number	Note
TL04-TLX/E Transmitter (RUDOLPH)	80-000 251	
Article description	Article number	Note
TL04-TLR/E Receiver (RUDOLPH)	80-000 252	

Passenger detection system (IPS) – E-version

End module (active)



End module
transmitter



End module
receiver

Article description	Article number	Note
TL04-TLX-EM/E End module transmitter (RUDOLPH)	80-000 253	
Article description	Article number	Note
TL04-TLR-EM/E End module receiver (RUDOLPH)	80-000 254	

Conversion set from C-version to E-version

Escalators with light curtains of type C can be modernised with the E-version.

Adapter modules, which can easily be connected to the already lying adapter cable from the previous version, are available for this and thus make their replacement unnecessary. Only the transmitter- and receiver modules of the new version must be used.



Adapter
transmitter



Adapter
receiver

Article description	Article number	Note
Adapter for conversion C to E TL04TX/E-version transmitter	80-000 271	
Adapter for conversion C to E TL04TX/E-version receiver	80-000 272	

Fittings



Angle bracket for E-modules, made of stainless steel. You need one bracket per module.

Article description	Article number	Note
Angle bracket TL04, stainless steel	55-000 122	

Passenger detection system (IPS) – D-version

D-version for OTIS and KONE escalators

The light curtain D-version provides an improved connection system that simplifies installation, maintenance and repairs.



- ▶ original RUDOLPH design
- ▶ extremely robust and weather-resistant
- ▶ improved connecting system
 - easy installation
 - higher durability
- ▶ no wear parts
- ▶ small quantity of components

- ▶ conversion set from MO-version to D-version
- ▶ for replacement of IPS systems MO-version

The system consists of only 7 components, which simplifies storage significantly. The assembly cost is very low. Thus, this version is ideal for the modernisation. The modules can be selectively clamped or screwed and replaced individually.

Escalators with light curtains of the type MO can be modernised with this system.

Central unit / Adapter cable to be connected to the central unit TLCU22-04



Central unit for light
curtains TL04



Adapter cable (4 m)
transmitter
to be connected to the
central unit TLCU22-04



Adapter cable (4 m)
receiver
to be connected to the
central unit TLCU22-04

Article description	Article number	Note
TLCU22-04 Central unit (RUDOLPH)	80-000 001	
TL04TX/D Adapter cable transmitter (RUDOLPH)	80-000 205	
TL04RX/D Adapter cable receiver (RUDOLPH)	80-000 206	

Passenger detection system (IPS) – D-version

Transmitter and receiver



Transmitter



Receiver

Article description	Article number	Note
TLX04/D Transmitter (RUDOLPH)	80-000 201	
Article description	Article number	Note
TLR04/D Receiver (RUDOLPH)	80-000 202	

End module (active)

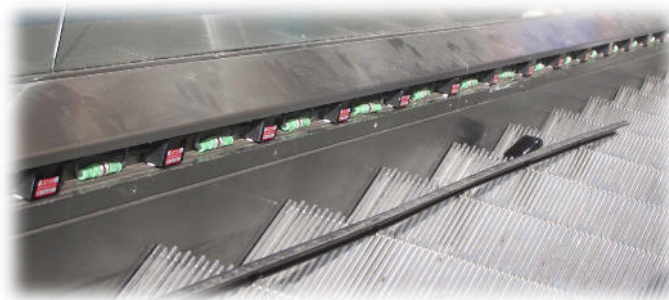


End module
transmitter



End module
receiver

Article description	Article number	Note
TL04TX/D End module transmitter (RUDOLPH)	80-000 203	
Article description	Article number	Note
TL04RX/D End module receiver (RUDOLPH)	80-000 204	



Passenger detection system (IPS) – D-version (rev.)

D-version (rev.) for OTIS and KONE escalators

The passenger detection system D-version (rev.) is a further development of the successful D-version. The module housing of this version includes a labeling if it is a transmitter or receiver.



- ▶ original RUDOLPH design
- ▶ extremely robust and weather-resistant
- ▶ improved connecting system
 - easy installation
 - higher durability
- ▶ no wear parts
- ▶ small quantity of components
- ▶ conversion set from MO-version to D-version
- ▶ for replacement of IPS systems MO-version
- ▶ low priced chains with 3 and 7 modules available
- ▶ low priced than D-version

Central unit / Adapter cable to be connected to the central unit TLCU22-04



Central unit for light
curtains TL04-04



Adapter cable (4 m)
transmitter
to be connected to the
central unit TLCU22-04



Adapter cable (4 m)
receiver
to be connected to the
central unit TLCU22-04

Article description	Article number	Note
TLCU22-04 Central unit (RUDOLPH)	80-000 001	
Adapter cable TL04TX/D-Version transmitter (rev.)	80-000 225	
Adapter cable TL04RX/D-Version receiver (rev.)	80-000 226	

Transmitter und Receiver



Transmitter



Receiver

Article description	Article number	Note
TLX04/D Transmitter D-version (rev.)	80-000 221	
Article description	Article number	Note
TLR04/D Receiver D-version (rev.)	80-000 222	

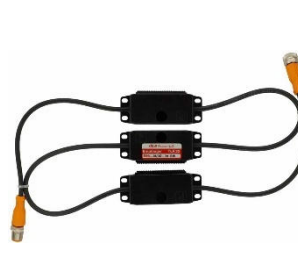
Passenger detection system (IPS) – D-version (rev.)



Three chain
transmitter



Seven chain
transmitter



Three chain
receiver



Seven chain
receiver

Article description	Article number	Note
TL04-TLX /D Transmitter D-version 3 chain (rev.)	80-000 227	
TL04-TLX /D Transmitter D-version 7 chain (rev.)	80-000 231	
Article description	Article number	Note
TL04-TLR /D Receiver D-version 3 chain (rev.)	80-000 228	
TL04-TLR /D Receiver D-version 7 chain (rev.)	80-000 232	

End module (active)



End module
transmitter



End module
receiver

Article description	Article number	Note
TL04TX/D End module transmitter D-version (rev.)	80-000 223	
Article description	Article number	Note
TL04RX/D End module receiver D-version (rev.)	80-000 224	

Conversion set from MO-version to D-version

Escalators with light curtains of the type MO can be modernised with this system.



Adapter
transmitter



Adapter
receiver

Article description	Article number	Note
Adapter for conversion from MO to D TL04TX/D-version transmitter	80-000 229	
Adapter for conversion from MO to D TL04TX/D-version receiver	80-000 230	

Rotation speed monitors

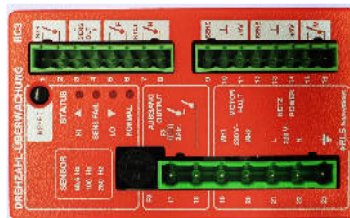
The speed monitoring system RC3 controls the three speed ranges of underspeed, nominal speed and overspeed as well as the state of the direction reversal.

The hazardous conditions of underspeed, change of direction, overspeed and sensor failure cause a shutdown of the motor.

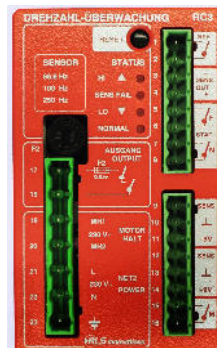
Inductive proximity switches can be adapted as pickup. The sensors are supplied with energy by the device and therefore require no external power supply. The device can be supplied for six different sensor nominal frequencies.

For connection to the staircase control, a floating relay contact (motor contactor M) is required. The safety output to the escalator control internally contains two series-connected, potential-free working contacts, which can be looped into the safety chain.

- ▶ shut-off in case of fault
- ▶ sensor nominal frequencies: $66\frac{2}{3}$, 80, 100, 250, 333 and 500 Hz
- ▶ optical or inductive sensors can be used
- ▶ status output with optical display
- ▶ compact design
- ▶ low power consumption < 5 VA
- ▶ all 230 V versions are TÜV tested as per BG type examination in accordance with EN115:2008



Horizontal design



Vertical design

RC3 for vertical mounting – 230 V

All speed indicators for vertical mounting include a mounting clip for DIN profile rail mounting.

Article description	Article number	Frequenz	Note
Rotation speed monitor RC3 $66\frac{2}{3}$ Hz	80-200 300	$66\frac{2}{3}$ H	
Rotation speed monitor RC3 80 Hz	80-200 303	80 Hz	
Rotation speed monitor RC3 100 Hz	80-200 301	100 Hz	
Rotation speed monitor RC3 250 Hz	80-200 302	250 Hz	
Rotation speed monitor RC3 333 Hz	80-200 311	333 Hz	
Rotation speed monitor RC3 500 Hz	80-200 315	500 Hz	

RC3 for horizontal mounting – 230 V

All speed indicators for horizontal mounting include a mounting clip for DIN profile rail mounting.

Article description	Article number	Spannung	Note
Rotation speed monitor RC3 $66\frac{2}{3}$ Hz	80-200 304	$66\frac{2}{3}$ H	
Rotation speed monitor RC3 80 Hz	80-200 305	80 Hz	
Rotation speed monitor RC3 100 Hz	80-200 306	100 Hz	
Rotation speed monitor RC3 250 Hz	80-200 307	250 Hz	
Rotation speed monitor RC3 333 Hz	80-200 314	333 Hz	
Rotation speed monitor RC3 500 Hz	80-200 316	500 Hz	

Rotation speed monitors

Speed indicator (MPRC)

The MPRC is used to indicate the speed of the step band of an escalator. By measuring the speed of the escalator drive under consideration of the gear ratio, the current speed is displayed in m/s.

The MPRC receives its speed information from the cams mounted on the flywheel of the escalator motor. With the help of inductive proximity switches, pulses are thus generated, which are used for speed monitoring of the escalator. The pulses generated by the proximity switch are first supplied to the speed monitoring RC3 for speed monitoring in accordance with EN115.



- ▶ speed display in consideration of the gear ratio
- ▶ indication of the speed in m/s
- ▶ compact design
- ▶ compatible with speed monitoring RC3

The MPRC includes a mounting clip for DIN profile rail mounting.

Article description	Article number	Note
Speed indicator MPRC	80-200320	

Radar sensors

The radar technology provides a number of advantages over conventional pyroelectric motion detectors:

- ▶ the switching function can be adjusted depending on the direction of movement
- ▶ adjustable detection sensitivity
- ▶ rapid detection of objects
- ▶ installation behind plastic covers or similar is possible
- ▶ not sensitive to contamination
- ▶ waterproof up to IP 68

Radar motion sensors with adjustable sensitivity can be mounted directly in the application. The optimum sensitivity can then be adjusted as custom-fit.

Area of application

- ▶ access control
- ▶ gate control
- ▶ people and object recognition
- ▶ direction-sensitive motion detection

Standards

- ▶ ETSI EN300440-1 V1.3.1 (2001-09)
- ▶ ETSI EN300440-2 V1.1.1 (2001-09)
- ▶ VDE 0848(08/2000) Part1
- ▶ VDE 0848(01/1991) Part2
- ▶ ICNIRP Guidelines (04/1998)
- ▶ EN50 081-1
- ▶ EN50 082



Front of a
radar sensor RMS-AT



Rear side of an adjustable
radar sensor RMS-AT adj.

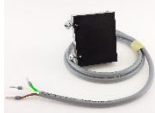
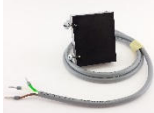



Radar sensors with fixed sensitivity

Fixed sensitivity

The radar sensors are used as a motion detector for approaching objects. The detection range is between about 0.5 m and 5.0 m. The range is factory-set according to customer's wish and varies depending on the size, shape and speed of moving objects.

- ▶ low power consumption
- ▶ concealed installation possible
- ▶ maintenance-free
- ▶ simple installation

Overview of radar sensors with fixed sensitivity ⁽¹⁾

	RMS-A	RMS-AT	RMS-C	RMS-C-V	RMS-CV-LR
					
Sensitivity range ^(A)	approx. 2,5 m	approx. 2,5 m	approx. 2,5 m	approx. 2,5 m	approx. 1,5 m
Signal output	active high push pull	active low push pull	active low push pull	active low optocoupler / opener, cascadable	active low optocoupler / opener, cascadable
Adjustable length of output signal	–	–	–	–	–
Direction	approaching	approaching	approaching	approaching	approaching
Antenna pattern	horizontal 80 ° vertical 32 °	horizontal 80 ° vertical 32 °	horizontal 80 ° vertical 32 °	horizontal 80 ° vertical 32 °	horizontal 80 ° vertical 32 °
Antenna orientation ^(B)	0 °	0 °	0 °	0 °	0 °
Status LED on back / inside	– / –	– / –	– / –	– / –	– / –
Cable	1 m 3 x 0,25 mm ²	1 m 3 x 0,25 mm ²	1 m 3 x 0,25 mm ²	5 m 4 x 0,25 mm ²	5m 4 x 0,25 mm ²
Dimension [mm]	56 x 46 x 22	56 x 46 x 22	46 x 70 x 23	56 x 46 x 22	56 x 46 x 22

Article description	Article number	Note
Radar motion detector RMS-A push pull, active high	80-201 002	
Radar motion detector RMS-AT push pull, active low	80-201 003	
Radar motion detector RMS-C push pull, active low	80-201 005	
Radar motion detector RMS-C-V potential-free output, active low	80-201 006	
Radar motion detector RMS-CV-LR potential-free output, active low	80-201 010	

^(A) The sensitivity depends on size, shape und speed of the moving objects.

^(B) The antenna pattern is the angle between the vertical reference direction of the sensor surface and the radiation direction of the antenna.

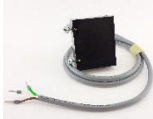



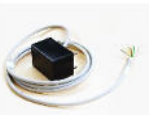
Radar sensors with adjustable sensitivity

Adjustable sensitivity

Radar motion sensors with adjustable sensitivity can be mounted directly in the application. The optimum sensitivity can then be adjusted as custom-fit.

- ▶ easy adjustment of sensitivity on site
- ▶ adjustable switching time after object recognition
- ▶ insensitive to lateral movements
- ▶ selection of the measurement range by horizontal or vertical mounting
- ▶ wide input voltage range
- ▶ low power consumption
- ▶ concealed installation possible
- ▶ maintenance-free
- ▶ easy installation

Overview of radar sensors with adjustable sensitivity ^(A)

	RMS-AT-Adj	RMS-CV-Adj	RMS-2 (cable)	RMS-2 (M12)	RMS-B incl. RMS-KK ^(C)
					
Sensitivity range ^(A)	approx. 0,5 - 5 m	approx. 0,5 - 5 m	1 m, 2 m, 4 m, 6 m	1 m, 2 m, 4 m, 6 m	approx. 0,5 – 5 m ^(C)
Signal output	active low push pull	active low optocoupler, cascadable	active low / high push pull	active low / high push pull	active low push pull
Adjustable length of output signal	–	–	1 s, 5 s, 10 s, 30 s	1 s, 5 s, 10 s, 30 s	–
Direction	approaching	approaching	approaching and/or departing	approaching and/or departing	approaching
Antenna pattern	horizontal 80 ° vertical 32 °	horizontal 80 ° vertical 32 °	horizontal 70 ° vertical 36 °	horizontal 70 ° vertical 36 °	horizontal 70 ° vertical 36 °
Antenna orientation ^(B)	0 °	0 °	0 °	0 °	25 °
Status LED on back / inside	✓ / –	✓ / –	– / ✓	– / ✓	– / –
Cable	1 m 3 x 0,25 mm ²	5 m 4 x 0,25 mm ²	2 m 4 x 0,25 mm ²	M12 male 4-pol	2 m 5 x 0,34 mm ²
Dimension [mm]	56 x 46 x 22	56 x 46 x 22	65 x 50 x 35	65 x 50 x 35	46 x 70 x 44

Article description	Article number	Note
Radar motion detector RMS-AT-Adj push pull, active low	80-201 011	
Radar motion detector RMS-CV-Adj potential-free output, active low	80-201 009	
Radar motion detector RMS-2 (cable) push pull, active low / high	80-202 001	
Radar motion detector RMS-2 (M12) push pull, active low / high	80-202 000	
Radar motion detector RMS-B push pull, active low	80-201 004	

^(A) The sensitivity depends on size, shape und speed of the moving objects.

^(B) The antenna pattern is the angle between the vertical reference direction of the sensor surface and the radiation direction of the antenna.

^(C) Terminal box to connect the cable and to adjust the sensitivity. 5 meter 3 x 0,25 mm² cable to the control unit.

Precipitation sensors

The precipitation sensors IRSS88 and IRSS88T detect reliably all kinds of atmospheric precipitation such as rain, hail and snow through the analysis of infrared rays. Due to the robust design, they are ideally suited for operation in hard-to-reach places.

IRSS88 and IRSS88T

Based on a light barrier principle, an active detection area of approximately 120 x 25 mm is produced. This area is sufficient to reliably detect even slight precipitation densities in the smallest particle size.

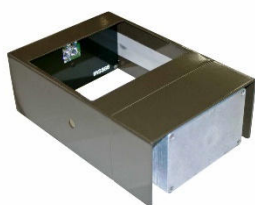
The opto-electronic principle used reacts instantaneously to particles that pass through the sensor zone. The highly sensitive microelectronics is however insensitive to any kind of disturbance light, even against intense sunlight. The all-metal housing ensures effective shielding against RF interference.

Manufactured in SMD technology and equipped with a robust, waterproof stainless steel housing, this sensor is suitable for use under extreme environmental conditions in meteorology and traffic control technology.

In addition, the sensor IRSS88T contains an integrated temperature measurement and a serial interface (RS232). The IRSS88T contains a separate temperature sensor, which is located in an aluminium attachment on the core housing. With this extension, it is possible to measure the ambient temperature to 0,1 degree accuracy and to control a floating switching output via a switching hysteresis function. The hysteresis can be adjusted as desired over 2 rotary selector switches between 0 °C and 9 °C.



IRSS88

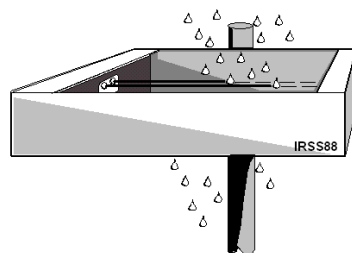
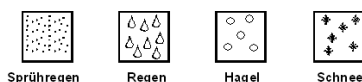


IRSS88T

- ▶ reliable detection of all types of precipitation
- ▶ option to distinguish rain / snow
- ▶ instantaneous reaction
- ▶ extremely robust
 - solid stainless steel housing
 - insensitive to extraneous light
- ▶ low power consumption
- ▶ connecting cable up to 1000 m possible

Article description	Article number	Note
IRSS88 made of stainless steel	80-700 100	
IRSS88 powder coated, white	80-700 101	
IRSS88 special edition, made of stainless steel (9 – 32 VDC)	80-700 102	

Article description	Article number	Note
IRSS88T	80-700 110	

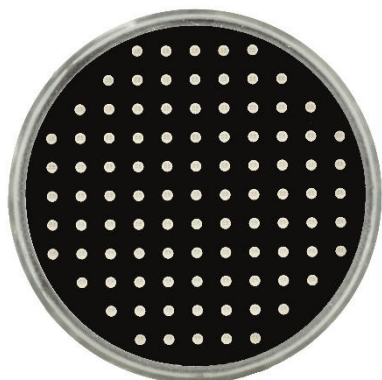


Direction indicators (traffic lights)

Multi-purpose traffic light

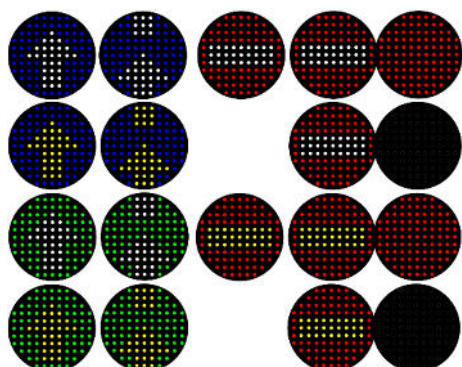
The multifunction display consists of 97 RGB LEDs. The LEDs are arranged uniformly over the entire display area and each individual one can take any colour.

In addition, the displayed icons can be animated. The multifunction traffic lights can show up to three icons as switchable. For connection to a remote diagnostic system, the traffic light is available with a monitoring function.



- ▶ symbols and colours can be freely defined by the customer
- ▶ up to three icons displayed / switchable
- ▶ high contrast
- ▶ long service life
- ▶ low power consumption
- ▶ large input voltage range
- ▶ optional with monitoring function
- ▶ available with 75 mm, 70 mm or 60 mm front pane diameter
- ▶ available with flat or curved front pane
- ▶ low installation depth (30 mm)

Specification and scope of delivery



Example for possible symbols (each version can be animated)

Operating voltage:	10 - 28 VDC
Luminosity:	typ. 50 lx (0,5 m)
Power consumption:	typ. 3 VA
Protection class:	IP 67
Mounting depth:	30 mm
Connection:	3 x 0,34 mm ² , length 30 cm, wire end sleeves 5 x 0,34 mm ² , length 30 cm, wire end sleeves
Included accessories:	rubber seal ring without mounting material, please order separately, overview on page 35

Product key

X1 Product type		X2 Front pane diameter		X3 Number of LEDs		X4 Type of mounting		X5 Number of functions		X6 Monitoring function	
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type	Code	Type
SI	Direction indicator	74	74mm	97	97 RGB LEDs	C	straight for square columns,	F3	3 functions	Check	with monitoring function
		70	70mm			B	curved for balustrades	-		-	without monitoring function
		60	60mm								

Example

SI 74 97 C - F3 - Check
X1 X2 X3 X4 X5 X6

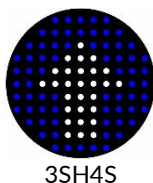
Direction indicator (traffic light) – multi-purpose traffic light

Funktionsschlüssel

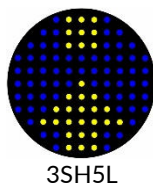
Function	Background		Symbol		
	Colour	Exposition	Type	Colour	Exposition
	1 <input type="radio"/> red 2 <input type="radio"/> green 3 <input type="radio"/> blue 4 <input type="radio"/> white 5 <input type="radio"/> yellow K <input type="radio"/> none (off) X <input type="radio"/> _____	S <input type="radio"/> static B <input type="radio"/> blinking K <input type="radio"/> none (off) X <input type="radio"/> _____	H <input type="radio"/> ↑ arrow, upward R <input type="radio"/> ↓ arrow, downward Q <input type="radio"/> arbor, one-way street. C <input type="radio"/> countdown 5 -> 1 K <input type="radio"/> none X <input type="radio"/> _____	1 <input type="radio"/> red 2 <input type="radio"/> green 3 <input type="radio"/> blue 4 <input type="radio"/> white 5 <input type="radio"/> yellow K <input type="radio"/> none (off) X <input type="radio"/> _____	S <input type="radio"/> static L <input type="radio"/> running B <input type="radio"/> blinking K <input type="radio"/> none (off) X <input type="radio"/> _____

Other front panes or functions are possible. Please contact us.

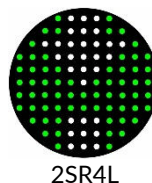
Example for feasible symbols



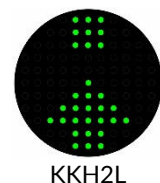
3SH4S



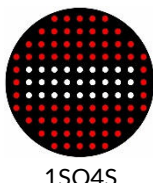
3SH5L



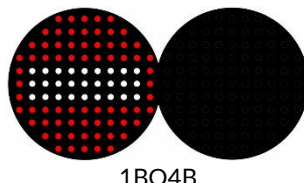
2SR4L



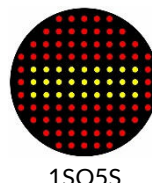
KKH2L



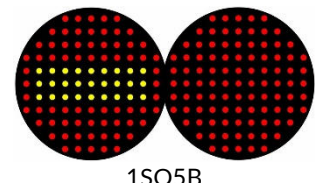
1SQ4S



1BQ4B



1SQ5S



1SQ5B

The diameter, the type of the front pane and - if required - a monitoring function can be defined by the article description/article number. In addition, you specify the type of animation for each of the 3 functions by means of the 5-digit function key.

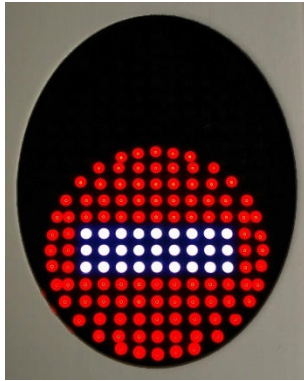
Artikelbezeichnung	Artikelnummer	Notiz
SI7497C-F3 24 VDC	80-001 153	
SI7497C-F3-Check 24 VDC (with monitoring function)	80-001 154	
SI7497B-F3 24 VDC	80-001 155	
SI7497B-F3-Check 24 VDC (with monitoring function)	80-001 156	
SI7097C-F3 24 VDC	80-001 157	
SI7097C-F3-Check 24 VDC (with monitoring function)	80-001 158	
SI7097B-F3 24 VDC	80-001 159	
SI7097B-F3-Check 24 VDC (with monitoring function)	80-001 160	
SI6097C-F3 24 VDC	80-001 161	
SI6097C-F3-Check 24 VDC (with monitoring function)	80-001 162	
SI6097B-F3 24 VDC	80-001 163	
SI6097B-F3-Check 24 VDC (with monitoring function)	80-001 164	

Direction indicator (traffic light) – animated direction indicator

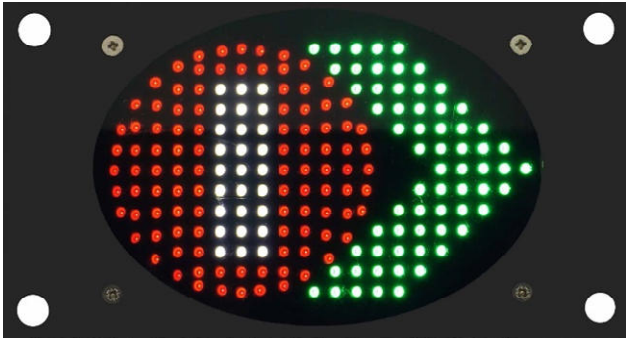
Animated direction indicator (ELPB192)

The animated direction indicator ELPB192 combines arrow- and one-way street display in one product.

Both arrow and the one-way street icon are animated. Three display modes can be switched: stop, stop flashing and operation.



- ▶ animated arrow- and one-way street icon
- ▶ for installation in the base plate or a square column
- ▶ straight front pane
- ▶ 3 different display modes (stop, stop flashing, operation)
- ▶ very bright illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ when de-energised, no symbols are recognisable
- ▶ protection class: IP 67
- ▶ temperature range: - 20 ... + 60 °C
- ▶ special version for 12 V possible



Article description
ELPB192 24VDC

Article number Note
80-000 550



Direction indicator (traffic light) – square column or socket (75 mm)

Traffic lights for square column or socket (75 mm diameter)



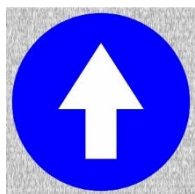
- ▶ front pane for installation in 75 mm recess
- ▶ for incorporation into square columns or sockets
- ▶ straight front pane
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ optionally with monitoring function
- ▶ front pane interchangeable
- ▶ when de-energised, no symbols are recognisable
- ▶ temperature range: - 20 ... + 60 °C
- ▶ special version for 12 V possible

Specification and scope of delivery

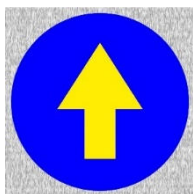


Front pane:	d = 74,5 mm, straight
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 2,6 VA
Protection class:	IP 67
Mounting depth:	56 mm
Connection:	3 x 0,5 mm ² , length 30 cm, wire end sleeves
Included accessories:	rubber seal ring without mounting material, please order separately, overview on page 36
Others:	front pane interchangeable

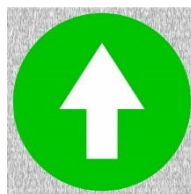
Direction arrow symbol (square column or socket with 75 mm diameter)



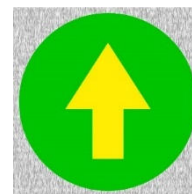
RS7400-W



RS7400-Y



RS7400-W-G

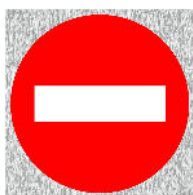


RS7400-Y-G

Article description	Article number	Note
RS7400-W	80-000 510	
RS7400-W-check (with monitoring function)	80-000 555	
RS7400-Y	80-000 503	
RS7400-Y-check (with monitoring function)	80-000 583	
RS7400-W-G	80-000 541	
RS7400-W-G-check (with monitoring function)	80-000 585	
RS7400-Y-G	80-000 545	
RS7400-Y-G-check (with monitoring function)	80-000 587	

Direction indicator (traffic light) – square column or socket (75 mm)

One-way street symbol (square column or socket with 75 mm diameter)



ES7400-W



ES7400-Y

Article description	Article number	Note
ES7400-W	80-000 509	
ES7400-W-check (with monitoring function)	80-000 553	
ES7400-Y	80-000 501	
ES7400-Y-check (with monitoring function)	80-000 589	

Changing direction and wait symbol (square column or socket with 75 mm diameter)



WS7400-W



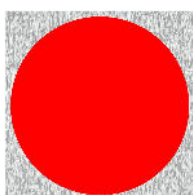
WARTE-S7400-R



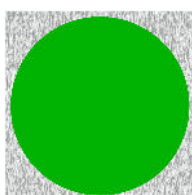
WARTE-S7400-W

Article description	Article number	Note
WS7400-W	80-000 508	
WS7400-W-check (with monitoring function)	80-000 557	
WARTE-S7400-R	80-000 547	
WARTE-S7400-R-check (with monitoring function)	80-000 592	
WARTE-S7400-W	80-000 593	
WARTE-S7400-W-check (with monitoring function)	80-000 594	

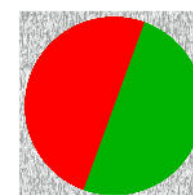
Red, green and red/green switchable (square column or socket with 75 mm diameter)



S7400-R (unicolour)



S7400-G (unicolour)

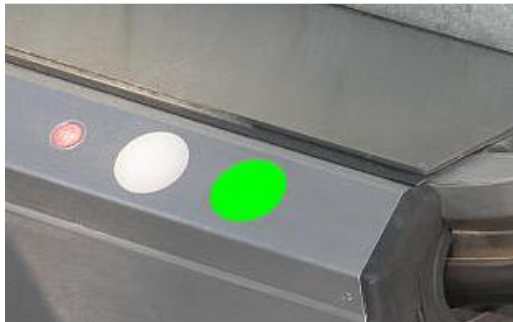


RGS7421 (switchable)

Article description	Article number	Note
S7400-R	80-000 505	
S7400-R-check (with monitoring function)	80-000 513	
S7400-G	80-000 504	
S7400-G-check (with monitoring function)	80-000 606	
RGS7421	80-000 561	
RGS7421-check (with monitoring function)	80-000 515	

Direction indicator (traffic light) – square column or socket (60 mm)

Traffic lights for square column or socket (60 mm diameter)



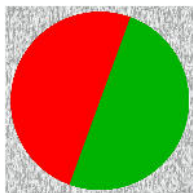
- ▶ front pane for installation in 60 mm recess
- ▶ for incorporation into square columns or sockets
- ▶ straight front pane
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ front pane interchangeable
- ▶ when de-energised, no symbols are recognisable
- ▶ special version for 12 V possible

Specification and scope of delivery



Front pane:	d = 60 mm, straight, flange with 4 holes d = 10 mm (56 x 56 mm)
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 1,8 VA
Protection class:	IP 67
Mounting depth:	65 mm
Connection:	3 x 0,5 mm ² , length 30 cm, wire end sleeves
Included accessories:	Rubber seal ring
Others:	front pane interchangeable

Red/green switchable (square column or socket with 60 mm diameter)



RGS6031 (switchable)

Article description	Article number	Note
RGS6031	80-000 560	

Direction indicator (traffic light) – square column or socket (35 mm)

Traffic lights for square column or socket (35 mm diameter)



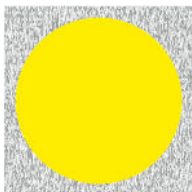
- ▶ front pane for installation in 35 mm recess
- ▶ for incorporation into square columns or sockets
- ▶ straight front pane
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ front pane interchangeable

Specification and scope of delivery



Front pane:	d = 35 mm, straight
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 0,8 VA
Protection class:	IP 67
Connection:	2 x 0,5 mm ² , length 30 cm, wire end sleeves
Included accessories:	without accessories and without mounting material, please order separately, overview on page 36
Others:	front pane interchangeable

Fault indicator (square column or socket with 35 mm diameter)



S3500-Y (E)

Article description	Article number	Note
S3500-Y (E)	80-000 827	

For more LED spots with various colours and diameters, please see page 44.

Direction indicator (traffic light) – balustrade (75 mm)

Traffic lights for balustrade (75 mm diameter)



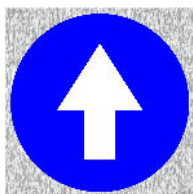
- ▶ front pane for installation in 75 mm recess
- ▶ for incorporation into balustrades
- ▶ curved front pane
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ optional with monitoring function
- ▶ front pane interchangeable
- ▶ when de-energised, no symbols are recognisable
- ▶ temperature range: - 20 ... + 60 °C
- ▶ special version for 12 V possible

Specification and scope of delivery

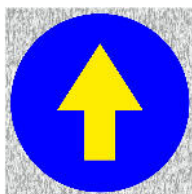


Front pane:	d = 74,5 mm, gewölbt
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 2,6 VA
Protection class:	IP 67
Mounting depth:	56 mm
Connection:	2 x 0,5 mm ² , Length 30 cm, wire end sleeves
Included accessories:	rubber seal ring without mounting material, please order separately, overview on page 36
Others:	front pane interchangeable

Direction arrow symbol (balustrade with 75 mm diameter)



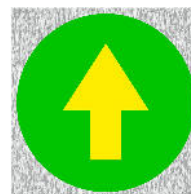
RB7400-W



RB7400-Y



RB7400-W-G

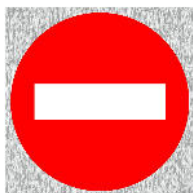


RB7400-Y-G

Article description	Article number	Note
RB7400-W	80-000 512	
RB7400-W-check (with monitoring function)	80-000 556	
RB7400-Y	80-000 502	
RB7400-W-G	80-000 540	
RB7400-W-G-check (with monitoring function)	80-000 558	
RB7400-Y-G	80-000 544	

Direction indicator (traffic light) – balustrade (75 mm)

One-way street symbol (balustrade with 75 mm diameter)



EB7400-W



EB7400-Y

Article description	Article number	Note
EB7400-W	80-000 511	
EB7400-W-check (with monitoring function)	80-000 554	
EB7400-Y	80-000 546	

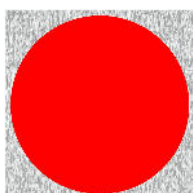
Changing direction and wait symbol (balustrade with 75 mm diameter)



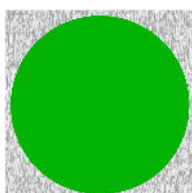
WB7400-W

Article description	Article number	Note
WB7400-W	80-000 548	
WB7400-W-check (with monitoring function)	80-000 559	

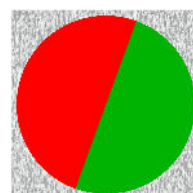
Red, green and red/green switchable (balustrade with 75 mm diameter)



B7400-R (unicolour)



B7400-G (unicolour)



RGB7421 (switchable)

Article description	Article number	Note
B7400-R	80-000 524	
B7400-G	80-000 523	
RGB7421	80-000 563	

Direction indicator (traffic light) – balustrade (70 mm)

Traffic lights for balustrade (70 mm diameter)



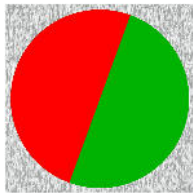
- ▶ front pane for installation in 70 mm recess
- ▶ for incorporation into balustrades
- ▶ curved front pane (r = 385 mm)
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ protection class: IP 67

Specification and scope of delivery



Front pane:	D =70 mm, curved (r = 385 mm)
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 1,8 VA
Protection class:	IP 67
Mounting depth:	56 mm
Connection:	3 x 0,5 mm ² , Length 30 cm, Wire end sleeves
Included accessories:	rubber seal ring without mounting material, please order separately, overview on page 36
Others:	front pane interchangeable

Red/green switchable (balustrade with 70 mm diameter)



RGK7021 (switchable)

Article description	Article number	Note
RGK7021	80-000 571	

Direction indicator (traffic light) – balustrade (60 mm)

Traffic lights for balustrade (60 mm diameter)



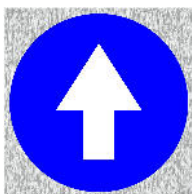
- ▶ for incorporation into balustrades
- ▶ curved front pane ($r = 387,5 \text{ mm}$)
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ optional with monitoring function
- ▶ front pane interchangeable
- ▶ when de-energised, no symbols are recognisable
- ▶ temperature range: $-20 \dots +60 \text{ }^{\circ}\text{C}$
- ▶ protection class: IP67
- ▶ special version for 12 V possible

Specification and scope of delivery



Front pane:	$d = 60 \text{ mm}$, curved ($r = 387,5 \text{ mm}$)
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 2,6 VA
Protection class:	IP 67
Mounting depth:	65 mm
Connection:	2 x 0,5 mm ² , length 30 cm, wire end sleeves
Included accessories:	rubber seal ring without mounting material, please order separately, overview on page 36
Others:	front pane interchangeable

Direction arrow symbol (balustrade with 60 mm diameter)



RB6000-W-B

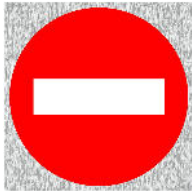


RB6000-W-G

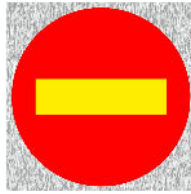
Article description	Article number	Note
RB6000-W-B	80-000 577	
RB6000-W-B-check (with monitoring function)	80-000 536	
RB6000-W-G	80-000 552	
RB6000-W-G-check (with monitoring function)	80-000 538	

Direction indicator (traffic light) – balustrade (60 mm)

One-way street symbol (balustrade with 60 mm diameter)



EB6000-W-R



EB6000-Y-R

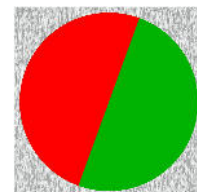
Article description	Article number	Note
EB6000-W-R	80-000 576	
EB6000-W-R-check (with monitoring function)	80-000 542	
EB6000-Y-R	80-000 582	
EB6000-Y-R-check (with monitoring function)	80-000 598	

Red/green switchable (balustrade with 60 mm diameter)

Specification and scope of delivery



Front pane:	d = 60 mm, curved (r = 387,5 mm) with 4 drill holes
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 60 lx (0,5 m)
Power consumption:	typ. 2,6 VA
Protection class:	IP 67
Mounting depth:	65 mm
Connection:	3 x 0,5 mm ² , length 30 cm, wire end sleeves
Included accessories:	rubber seal ring
Others:	front pane interchangeable



RGB6031

Article description	Article number	Note
RGB6031	80-000 567	
RGB6031-check (with monitoring function)	80-000 596	

Direction indicator (traffic light) – round column (70 mm)

Traffic lights for round columns (70 mm diameter)



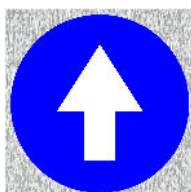
- ▶ front pane for installation in 70 mm recess
- ▶ for incorporation into round columns with diameter 114 mm
- ▶ curved front pane
- ▶ very bright and homogeneous illumination
- ▶ large input voltage range
- ▶ robust and long-lasting
- ▶ optional with monitoring function
- ▶ when de-energised, no symbols are recognisable
- ▶ temperature range: - 20 ... + 60 °C
- ▶ protection class: IP 67
- ▶ special version for 12 V possible

Specification and scope of delivery

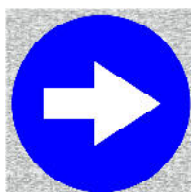


Front pane:	d = 70 mm, convex
Operating voltage:	16 - 28 VAC / 16 - 36 VDC
Luminosity:	typ. 30 lx (0,5 m)
Power consumption:	typ. 2,6 VA
Protection class:	IP 67
Mounting depth:	-
Connection:	2 x 0,5 mm ² , length 30 cm, wire end sleeves
Included accessories:	rubber seal ring
Others:	-

Direction arrow symbol (round column with 70 mm diameter) – replacement for RD F6N



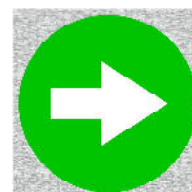
RS70114-W-B



RS70114-W-B/Q



RS70114-W-G



RS70114-W-G/Q

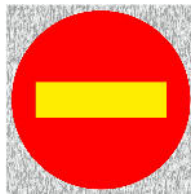
Article description	Article number	Note
RS70114-W-B	80-000 580	
RS70114-W-B-check (with monitoring function)	80-000 525	
RS70114-W-B/Q	80-000 581	
RS70114-W-B/Q-check (with monitoring function)	80-000 531	
RS70114-W-G	80-000 569	
RS70114-W-G-check (with monitoring function)	80-000 521	
RS70114-W-G/Q	80-000 570	
RS70114-W-G/Q-check (with monitoring function)	80-000 527	

Direction indicator (traffic light) – round column (70 mm)

One-way street symbol (round column with 70 mm diameter) – replacement for RD F6N



ES70114-W-R



ES70114-Y-R

Article description	Article number	Note
ES70114-W-R	80-000 568	
ES70114-W-R-check (with monitoring function)	80-000 517	
ES70114-Y-R	80-000 578	
ES70114-Y-R-check (with monitoring function)	80-000 519	



Accessories and mounting material for direction indicators (traffic lights)

We offer 6 different sets with mounting material suitable for your escalator and the used direction indicator. Each set is provided for the installation of one traffic light.

If you require other lengths or dimensions, please contact us. We like to assort the suitable set for your requirements.



50-000 012

- 2x M5 x 12 mm
lens head screw
- 2x M5 x 20 mm threaded bush
- 1x mounting flange 128 mm



50-000 017

- 2x M5 x 35 mm
lens head screw
- 2x M5 x 20 mm threaded bush
- 1x mounting flange 100 mm



50-000 018

- 2x M5 x 35 mm
lens head screw
- 2x M5 x 20 mm threaded bush
- 1x mounting flange 128 mm



50-000 019

- 2x M6 x 30 mm
lens head screw
- 2x M6 x 20 mm threaded bush
- 1x mounting flange 128 mm

Article description	Article number	Note
Mounting material for traffic lights M5 x 12	50-000 012	
Mounting material for traffic lights K M5 x 35	50-000 017	
Mounting material for traffic lights M5 x 35	50-000 018	
Mounting material for traffic lights M6 x 30	50-000 019	



50-000027

- 2x M5 x 25 mm
lens head screw
- 2x M5 x 20 mm threaded bush
- 1x mounting flange 74 mm
- 1x distance ring 0,5 mm



50-000 030

- 2x M5 x 25 mm
lens head screw
- 2x M5 x 20 mm threaded bush
- 1x mounting flange 74 mm

Article description	Article number	Note
Mounting material for SP3800 M5 with distance ring	50-000 027	
Mounting material for SP3800 M5 without distance ring	50-000 030	

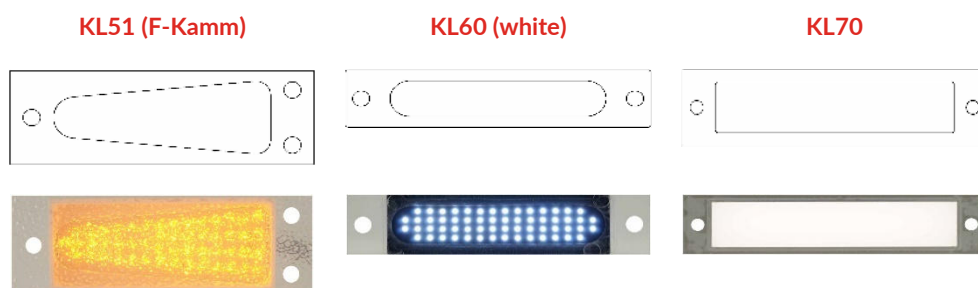
Comb lighting

The comb lights of RLS Wacon offer a number of advantages over conventional lighting:

- ▶ using super bright, high-quality and highly durable LEDs
- ▶ mechanical adaptation to your conditions
- ▶ extremely robust electrical design, no damage to the LEDs due to electrical fluctuations
- ▶ insensitive to dirt and very durable
- ▶ waterproof up to IP 67
- ▶ temperature range: - 20 ... + 60 °C

For all our comb lights, see the detailed technical data sheets on the Internet. On request, we will also send you this.

Due to the large number of already available comb lights and the in-house manufacturing, an individual lighting concept is possible. Please contact us or appoint a personal meeting with us - either at your premises or in our house.

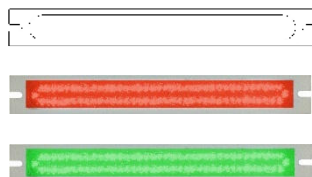


Front pane (material)	PMMA Plexiglas Ice crystal	PMMA Plexiglas (clear)	PC (satined)
Front pane (dimensions)	150 x 52,6 mm (pointed)	150 x 28 mm	182 x 37 mm
Height of contour	3 mm	3 mm	2 mm
Operating voltage	11 - 26 V AC/DC	22 - 28 V AC/DC	16 - 28 V AC/DC
Power consumption (max.)	4,0 VA	4,0 VA	6,0 VA
Fluorescent paint	yellow	white	white
Luminosity	90 lx (1,0 m distance)	500 lx (1,0 m distance)	580 lx (0,5 m distance)
Exterior dimensions	210 x 68 mm	212 x 45 mm	232 x 50 mm
Mounting depth	40 mm	22 mm	49 mm
Weight	400 g	200 g	470 g
Connection (cross section)	4 x 0,5 mm ² pin 1: Vcc pin 2: Vcc pin 3: input FÜ (collector) pin 4: output FÜ (emitter)	3 x 0,5 mm ² pin 1: Vcc pin 2: Vcc pin 3: not connected	2 x 0,75 mm ² pin 1: Vcc pin 2: Vcc pin 3: not connected
Connection (length)	50 cm	20 cm	30 cm
Connection (material)	Ölflex, wire end sleeves	Ölflex, wire end sleeves	Ölflex, HAN 3A (STI), metal

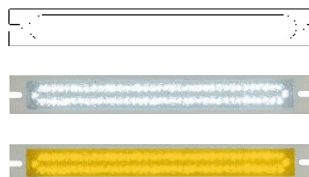
Article description	Article number	Note
KL51-Y (F-Kamm), (yellow)	80-000 633	
KL60-W, (white)	80-000 632	
KL70-W, (white)	80-000 665	

Comb lighting

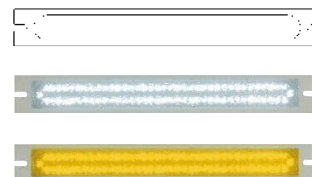
KLT76-G/R



KLT76



KLT76 - 230 V

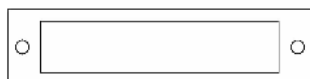


Front pane (material)	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal
Front pane (dimensions)	400 x 40 mm	400 x 40 mm	400 x 40 mm
Height of contour	2mm	2mm	2mm
Operating voltage	16 - 28 VAC / 16 - 36 VDC	16 - 28 VAC / 16 - 36 VDC	230 VAC
Power consumption (max.)	5,0 VA	5,0 VA	5,0 VA
Fluorescent paint	red/green switchable	white or yellow	white or yellow
Luminosity	120 lx	120 lx	120 lx
Exterior dimensions	460 x 60 mm	460 x 60 mm	460 x 60 mm
Mounting depth	38 mm	38 mm	38 mm
Weight	620 g	620 g	620 g
Connection (cross section)	3 x 0,5 mm ² pin 1: COM pin 2: Vcc rot pin 3: Vcc green	2 x 0,5 mm ² pin 1: Vcc pin 2: Vcc	2 x 0,5 mm ² pin 1: Vcc pin 2: Vcc
Connection (length)	30 cm	30 cm	30 cm
Connection (material)	Ölflex, wire end sleeves	Ölflex, wire end sleeves	Ölflex, wire end sleeves

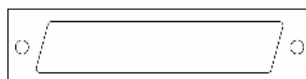
Article description	Article number	Note
KLT76-G/R (red/green switchable)	80-000 624	
KLT76-W (white)	80-000 622	
KLT76-Y (yellow)	80-000 620	
KLT76-W (white, 230 VAC)	80-000 623	
KLT76-Y (yellow, 230 VAC)	80-000 621	

Comb lighting

KL80-Q



KL80-RN



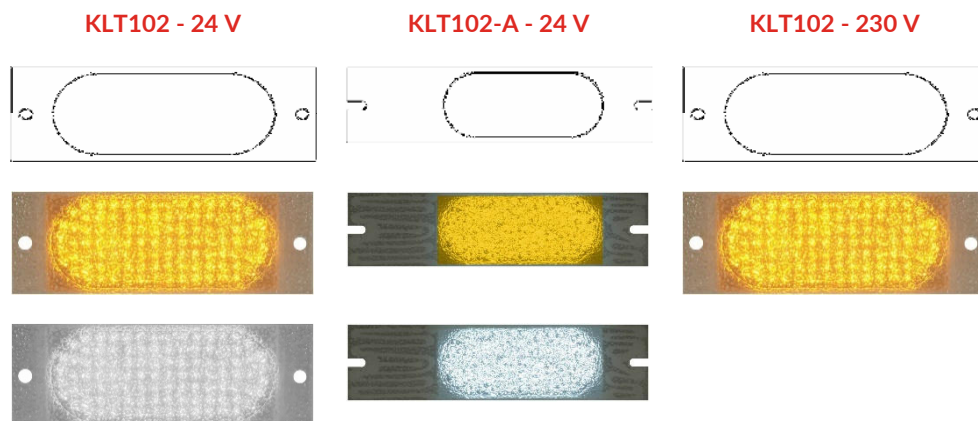
KL80-SN



Front pane (material)	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal
Front pane (dimensions)	182 x 36 mm	182 x 36 mm	182 x 36 mm
Height of contour	2 mm	2 mm	2 mm
Operating voltage	16 - 28 VAC/16 - 36 VDC	16 - 28 VAC/16 - 36 VDC	16 - 28 VAC/16 - 36 VDC
Power consumption (max.)	3,0 VA	3,0 VA	3,0 VA
Fluorescent paint	yellow	yellow or white or green	yellow or white or green
Luminosity	150 lx (yellow)	150 lx (yellow) 490 lx (white)	150 lx (yellow) 490 lx (white)
Exterior dimensions	232 x 50 mm	232 x 55 mm	232 x 55 mm
Mounting depth	55 mm	34 mm	34 mm
Weight	390 g	310 g	310 g
Connection (cross section)	2 x 0,5 mm ² (3 x 0,5 mm ²) pin 1: Vcc pin 2: Vcc pin 3: blinking	2 x 0,5 mm ² (3 x 0,5 mm ²) pin 1: Vcc pin 2: Vcc pin 3: blinking	2 x 0,5 mm ² (3 x 0,5 mm ²) pin 1: Vcc pin 2: Vcc pin 3: blinking
Connection (length)	30 cm	30 cm	30 cm
Connection (material)	Ölflex, HAN 3A (STI), plastic material	Ölflex, HAN 3A (STI), plastic material	Ölflex, HAN 3A (STI), plastic material

Article description	Article number	Note
KL80 Q (yellow)	80-000 604	
KL80 Q-BL (yellow, blinking)	80-000 605	
KL80 RN (yellow)	80-000 600	
KL80 RN-B (yellow, blinking)	80-000 601	
KL80 RN-W(white)	80-000 660	
KL80 RN-G (green)	80-001 133	
KL80 SN (yellow)	80-000 602	
KL80 SN-B (yellow, blinking)	80-000 603	
KL80 SN-W (white)	80-000 661	
KL80 SN-G (green)	80-000 134	
KL80 RN RGG-BL (red / green / green blinking switchable)	80-000 664	
KL80 SN RGG-BL (red / green / green blinking switchable)	80-000 669	

Comb lighting



Front pane (material)	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal
Front pane (dimensions)	169 x 69 mm	169 x 69 mm	169 x 69 mm
Height of contour	3mm	2mm	3 mm
Operating voltage	16 - 28 V AC/DC	16 - 28 V AC/DC	230 VAC
Power consumption (max.)	4,0 VA	4,0 VA	4,0 VA
Fluorescent paint	yellow or white	yellow or white	yellow
Luminosity	140 lx	140 lx	140 lx
Exterior dimensions	232 x 82 mm	324 x 82 mm	232 x 82 mm
Mounting depth	52 mm	52 mm	52 mm
Weight	580 g	600 g	580 g
Connection (cross section)	2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Connection (length)	30 cm	30 cm	30 cm
Connection (material)	Ölflex, wire end sleeves	Ölflex, wire end sleeves	Ölflex, wire end sleeves

Article description	Article number	Note
KLT102-Y (yellow)	80-000 608	
KLT102-W (white)	80-000 609	
KLT102-Y-A (yellow)	80-000 610	
KLT102-W-A (white)	80-000 619	
KLT102-Y (yellow, 230 VAC)	80-000 612	

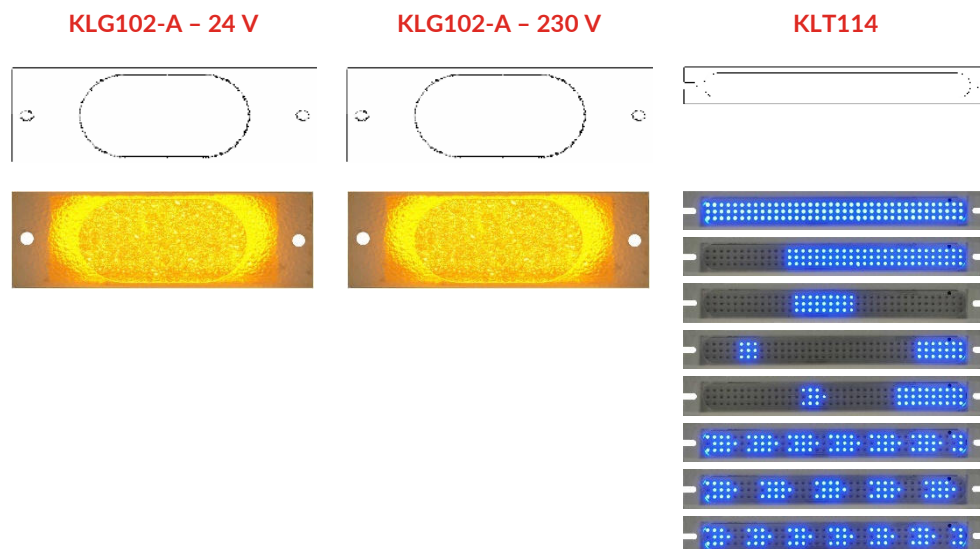
Comb lighting



Front pane (material)	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal
Front pane (dimensions)	169 x 69 mm	169 x 69 mm	169 x 69 mm
Height of contour	2mm	3mm	3mm
Operating voltage	230 VAC	16 - 28 V AC/DC	230 VAC
Power consumption (max.)	4,0 VA	4,0 VA	4,0 VA
Fluorescent paint	yellow or white	yellow or white	yellow or white
Luminosity	140 lx	120 lx	120 lx
Exterior dimensions	324 x 82 mm	232 x 82 mm	232 x 82 mm
Mounting depth	52 mm	52 mm	52 mm
Weight	600 g	580 g	580 g
Connection (cross section)	2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Connection (length)	30 cm	100 cm	100 cm
Connection (material)	Ölflex, wire end sleeves	Ölflex, wire end sleeves	Ölflex, wire end sleeves

Article description	Article number	Note
KLT102-Y-A (yellow, 230 VAC)	80-000 611	
KLT102-W-A (white, 230 VAC)	80-000 616	
KLG102-Y (yellow)	80-000 607	
KLG102-W (white)	80-000 614	
KLG102-Y (yellow, 230 VAC)	80-000 617	
KLG102-W (white, 230 VAC)	80-000 615	

Comb lighting

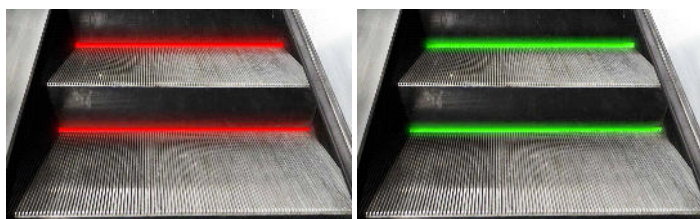


Front pane (material)	PMMA Plexiglas Ice crystal	PMMA Plexiglas Ice crystal	PMMA Plexiglas (clear)
Front pane (dimensions)	129 x 69 mm	129 x 69 mm	400 x 40 mm
Height of contour	3 mm	3 mm	2 mm
Operating voltage	16 - 28 V AC/DC	230 VAC	24 VAC
Power consumption (max.)	4,0 VA	4,0 VA	5,0 VA
Fluorescent paint	yellow	yellow	blue, direction switchable, programmable via IR-remote
Luminosity	120 lx (1,0 m distance)	120 lx (1,0 m distance)	1200 lx (0,5 m distance)
Exterior dimensions	232 x 82 mm	232 x 82 mm	460 x 60 mm
Mounting depth	52 mm	52 mm	52 mm
Weight	580 g	580 g	1100 g
Connection (cross section)	2 x 0,5 mm ²	2 x 0,5 mm ²	3 x 0,5 mm ²
Connection (length)	20 cm	20 cm	100 cm
Connection (material)	Ölflex, wire end sleeves	Ölflex, wire end sleeves	wire end sleeves

Article description	Article number	Note
KLG102-Y-A (yellow)	80-000 625	
KLG102-Y-A (yellow, 230 VAC)	80-000 618	
KLT114 - B (blue)	80-000 650	
KLT114 - B remote control	80-000 655	

Step gap lighting SL800

The step gap lighting SL800 is installed below the steps in the entrance and exit area of the escalator. It is used to illuminate the step gap in the ridge area. During the continuing movement of the steps, a flashing effect is produced, which makes the user aware of the escalator.



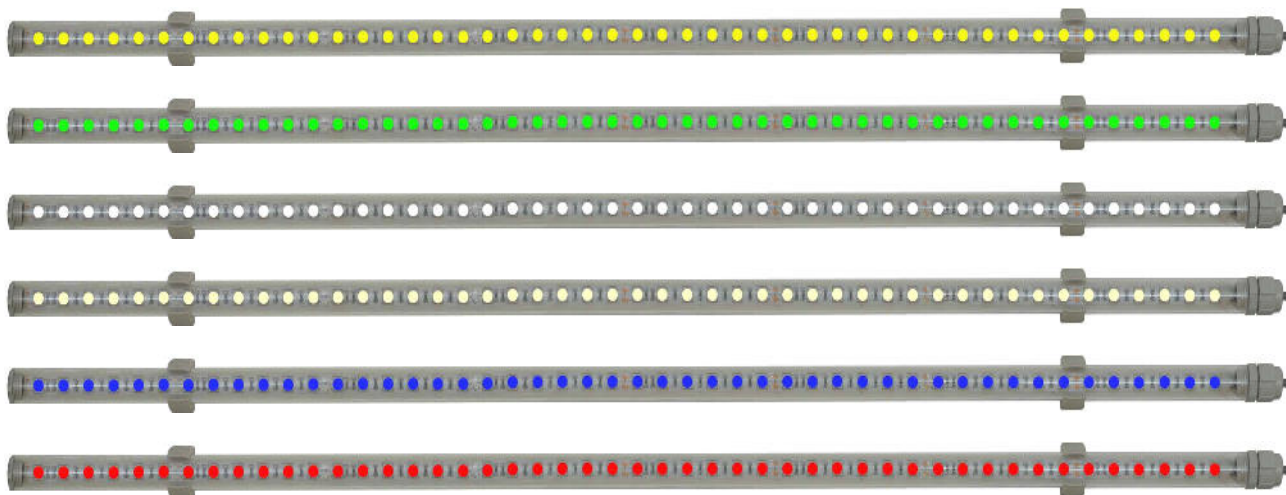
- ▶ 48 super bright SMD LEDs
- ▶ low power consumption
- ▶ very bright and homogeneous illumination
- ▶ robust and long-lasting
- ▶ protection class: IP 54 – higher on request
- ▶ temperature range: - 20 ... + 60 °C
- ▶ SL800-RG for signal light mat (integrated in the entrance mat light barrier)

Specification and scope of delivery



Operating voltage:	24 VDC ± 5 %
Luminosity:	30 lx (0,5 m distance)
Power consumption:	10,0 VA
Protection class:	IP 54
Dimensions:	850 x 30 x 33 mm
Connection:	2 x 0,5 mm ² , length 100 cm 3 x 0,5 mm ² , length 100 cm (SL800-RG)
	wire end sleeves
Included accessories:	2x clamp

Article description	Article number	Note
SL800-Y (yellow)	80-001 103	
SL800-G (green)	80-001 113	
SL800-RG (red/green switchable)	80-001 104	
SL800-W (white)	80-001 131	
SL800-WW (warm white)	80-001 136	
SL800-B (blue)	80-001 112	
SL800-R (red)	80-001 111	



LED spots

With the LED spots, you can set special and atmospheric accents on the escalator. All spots offered by us are characterised by a very high quality, because even with these products only high quality LEDs are used and production is carried out here in Hildesheim (Germany). Thus, modifications and special solutions can be implemented at any time.



- ▶ very bright LED lighting
- ▶ low power consumption
- ▶ robust and long-lasting
- ▶ protection class: IP 65
- ▶ cascadable

LED spot (38 mm diameter)

The spot SP3800 is a lighting element with 24 super-bright high-quality LEDs.

Specification and scope of delivery



Front pane:	PMMA Plexiglas Ice crystal
Höhe der Kontur:	3 mm
Operating voltage:	typ. 24 V AC/DC, 18 - 28 V AC/DC
Luminosity:	220 cd, 30°
Power consumption:	1,5 VA
Protection class:	IP 65
Mounting depth:	32 mm
Connection:	2 x 1,0 m, 2 x 0,5mm ² , cable lugs
Included accessories:	mounting flange with 2 x threaded bush

Article description	Article number	Note
SP3800-W (white)	80-000 800	
SP3800-WW (warm white)	80-000 805	
SP3800-Y (yellow)	80-000 801	
SP3800-R (red)	80-000 802	
SP3800-B (blue)	80-000 803	
SP3800-G (green)	80-000 804	

LED spot (38 mm diameter, low power)

The spot SP3800-LP is a lighting element with 6 super bright high quality LEDs.

Specification and scope of delivery



Front pane:	PMMA Plexiglas Ice crystal
Height of contour:	3 mm
Operating voltage:	24 VDC, 23 VDC - 25,6 VDC
Power consumption:	0,5 VA
Protection class:	IP 65
Mounting depth:	32 mm
Connection:	2 x 1,0 m, 2 x 0,5 mm ² , cable lugs
Included accessories:	mounting flange with 2 x threaded bush

Article description	Article number	Note
SP3800-W-LP (white)	80-000 821	
SP3800-Y-LP (yellow)	80-000 825	
SP3800-B-LP (blue)	80-000 820	

LED spots

LED spot (28 mm diameter)

This LED spot is an illuminating element with 21 super bright high quality-SMD LEDs.
It is compatible with KONE KM5070530H01

Specification and scope of delivery



Front pane:	PMMA Plexiglas Ice crystal
Height of contour:	3 mm
Operating voltage:	24 VDC +/- 5 %
Light current:	168 lm
Power consumption:	1,6 VA
Protection class:	IP 65
Mounting depth:	34 mm
Connection:	2 x 35 cm, 2 x1,5 mm ² , cable lugs brown: +24 VDC, blue: GND
Others:	current limiting at 65 mA

Article description	Article number	Note
LED spot 28 mm with bracket and mounting hook, cold white, front pane Ice crystal	80-001 141	

Specification and scope of delivery



Front pane:	PMMA Plexiglas satined
Height of contour:	3 mm
Operating voltage:	24 VDC +/- 5 %
Luminosity:	80 lx (0,5 m distance)
Power consumption:	0,5 VA
Protection class:	IP 65
Mounting depth:	35 mm
Connection:	2 x 40 cm, 2 x 0,75 mm ² , cable lugs red: +24 VDC, black: GND

Article description	Article number	Note
SP2800-W, LED spot 28 mm (white)	80-001 130	
SP2800-B, LED spot 28 mm (blue)	80-001 125	

Imprint:

© RLS Wacon GmbH
Eduard-Ahlborn-Str. 1
D - 31137 Hildesheim

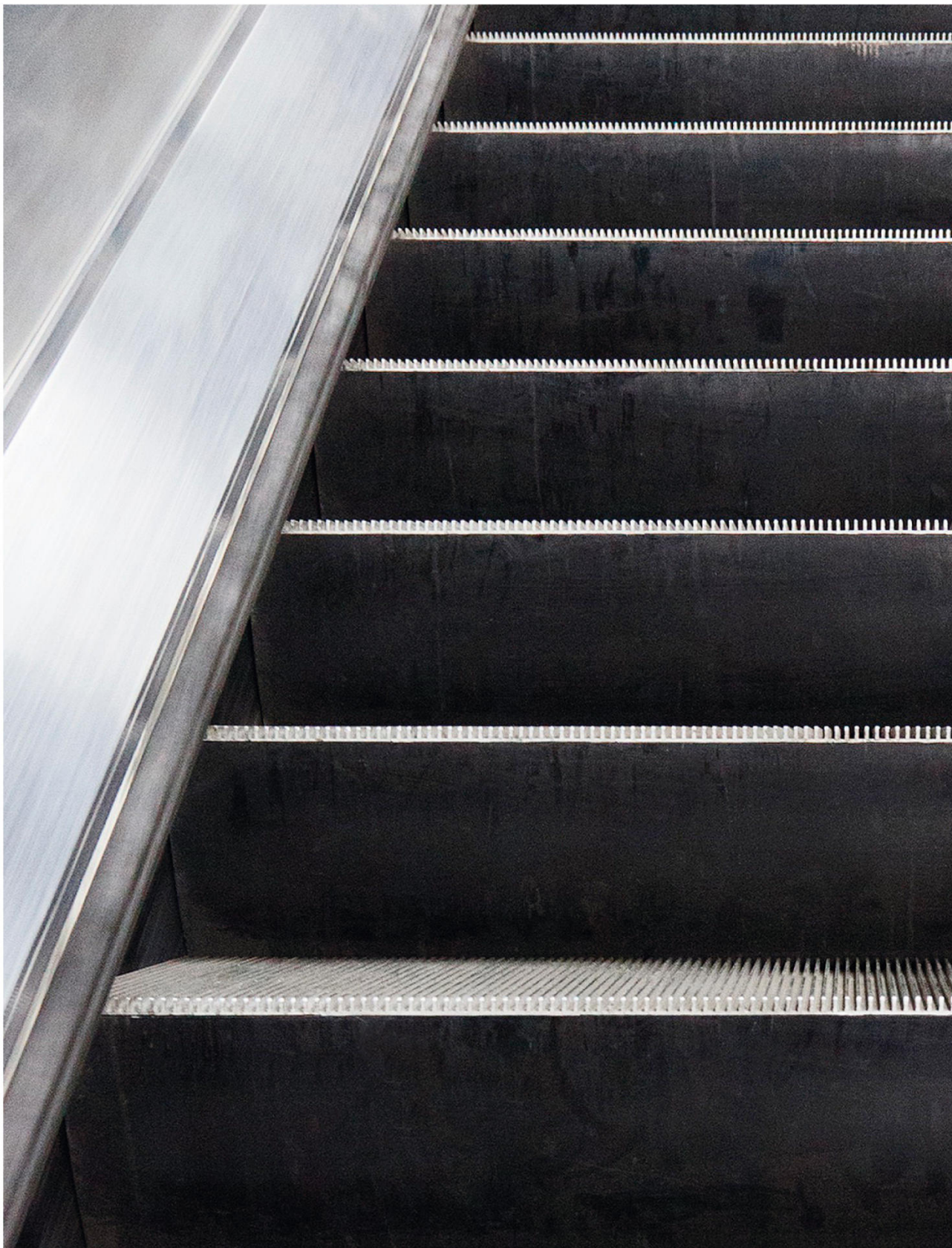
Telephone: +49 (0)5121 / 28126-0
Fax: +49 (0)5121 / 28126-20

info@rls-wacon.de
www.rls-wacon.de

Managing Directors: Dr. Claudia Rudolph, Dr. Sascha Matern
Register court: Amtsgericht Hildesheim
Register number: HRB 200 889
VAT Id.: DE259530002

Changes and errors excepted.

20161102



The RLS Wacon GmbH is a family-owned enterprise based in Hildesheim, Germany. For more than 40 years, we are developing and manufacturing robust and safe measurement and sensor technology for demanding applications. We hereby consistently focus on quality and well-known products. Our particular interest is the dialogue with customers, partners and suppliers. That's how *safety is reliably produced*.

Eduard-Ahlborn-Str. 1, D-31137 Hildesheim
Tel.: +49 (0) 5121 / 28126-0
Fax: +49 (0) 5121 / 28126-20
info@rls-wacon.de · www.rls-wacon.de

