



EN Operating instructions.pages 1 to 6
Original

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1. About this document


1.1 Function
These operating instructions provide all the information you need for the mounting, set-up and safe operation and disassembly of the door handle system. The operating instructions must be available in a legible condition and a complete version in the vicinity of the device.


1.2 Target group: authorised qualified personnel
All operations described in this operating instructions manual must be carried out by trained specialist personnel, authorised by the plant operator only.

Please make sure that you have read and understood these operating instructions and that you know all applicable legislations regarding occupational safety and accident prevention prior to installation and putting the component into operation.

The machine builder must carefully select the harmonised standards to be complied with as well as other technical specifications for the selection, mounting and integration of the components.


1.3 Explanation of the symbols used

 **Information, hint, note:**
This symbol indicates useful additional information.

 **Caution:** Failure to comply with this warning notice could lead to failures or malfunctions.
Warning: Failure to comply with this warning notice could lead to physical injury and/or damage to the machine.

1.4 General safety instructions
The Schmersal range of products is not intended for private consumers.

The user must observe the safety instructions in this operating instructions manual, the country specific installation standards as well as all prevailing safety regulations and accident prevention rules.

 Further technical information can be found in the Schmersal catalogues or in the online catalogue on the Internet: products.schmersal.com.

The information contained in this operating instructions manual is provided without liability and is subject to technical modifications.

There are no residual risks, provided that the safety instructions as well as the instructions regarding mounting, commissioning, operation and maintenance are observed.

1.5 Exclusion of liability
We shall accept no liability for damages or malfunctions resulting from defective mounting or failure to comply with this operating instructions manual. We shall accept no liability for damages or malfunctions resulting from defective mounting or failure to comply with this operating instructions manual.

For safety reasons, invasive work on the device as well as arbitrary repairs, conversions and modifications to the device are strictly forbidden, the manufacturer shall accept no liability for damages resulting from such invasive work, arbitrary repairs, conversions and/or modifications to the device.

2. Product description

2.1 Ordering code

This operating instructions manual applies to the following types:

DHS-U1-BKWH-①-②-③

No.	Option	Description
①	LST5-0.25	Without electrical connection Connecting cable with connector M12, 5-pole, 0.25 m
	LST8-0.25	Connecting cable with connector M12, 8-pole, 0.25 m
	L5-5.00	Connecting cable, 5-core, 5 m
	L8-5.00	Connecting cable, 8-core, 5 m
②	RGB	Door handle unilluminated
	LT	Door handle illuminated
③	LT	No operating element Illuminated pushbutton

2.2 Optional accessory (not included in delivery)

AZM40-B1 (103034199)	Actuator for use of the DHS-U1 in conjunction with the AZM40...(-PH) solenoid interlock.
AZM40-B1-PH (103037328)	
ACC-DHS-U1-INS-RST-U-2 (103055438)	Actuator insert incl. RST-U-2 actuator and attachment screw for use of the DHS-U1 in conjunction with safety sensor RSS260 / RSS36.
ACC-DHS-U1-INS (103055437)	Actuator insert (without function) for use of the DHS-U1 without corresponding safety switchgear device

2.3 Special versions

For special versions, which are not listed in the ordering code below 2.1, these specifications apply accordingly, provided that they correspond to the standard version.

See also the chapter 'Special versions' at the end of this operating instructions.

2.4 Purpose and use

The DHS-U1 is suitable for use with an AZM40 solenoid interlock, the RSS260 and RSS36 safety sensors and without integrated actuator as a universal door handle system.

2.5 Technical data

Standards:	EN 60947-5-1
Material:	
- Door handle:	glass-fibre reinforced thermoplastic
- Cover:	translucent PMMA
- Holder:	glass-fibre reinforced thermoplastic

Mechanical data

Connection:	connecting cable with M12 connector (A-coded) or connecting cable (PUR)
Cable section:	5 or 8 x 0.25 mm ²
Diameter of the cable:	5.5 mm
Cable bending radius:	
- With fixed routing (5 x Ø cable):	≥ 27.5 mm
- With free movement (10 x Ø cable):	≥ 55 mm
Tightening torque:	
- Fixing screws:	3.5 Nm (M6)
- Door handle screws:	2.5 Nm (Torx Plus T20)

Ambient conditions

Ambient temperature:	
- version with illuminated door handle:	-25 °C ... +45 °C
- version without illuminated door handle:	-25 °C ... +65 °C
- version without electrical connection:	-40 °C ... +75 °C
Storage and transport temperature:	-40 °C ... +85 °C
Relative humidity:	max. 93 %, non condensing, non icing

Degree of protection:	
- variant with illuminated push button:	IP66, IP67
- variant without illuminated push button:	IP66, IP67, IP69
- variant without electrical connection:	IP00
Installation altitude above sea level:	max. 3,000 m
Protection class:	III
Resistance to shock:	30 g / 11 ms (to EN 60068-2-27)
Resistance to vibration:	10 ... 55 Hz, amplitude 1 mm (to EN 60068-2-6)

Insulation values to EN 60664-1:	
- Rated insulation voltage U _i :	32 VDC
- Rated impulse withstand voltage U _{imp} :	0.8 kV
- Over-voltage category:	III
- Degree of pollution:	3

Electrical data

Utilisation category:	DC-12, DC-13
Operating voltage U _B :	24 VDC -15% / +10%
Operating current I _B :	< 150 mA
Required rated short-circuit current:	100 A
External cable and device fuse rating:	2 A gG

Electrical data – RGB-LEDs

Switching thresholds:	-3 V ... 5 V (Low), 11 V ... 30 V (High)
Current consumption per input:	≤ 5 mA / 24 V

Technical data of the pushbutton

Mechanical lifetime:	1,000,000 operations
Actuating force (at stroke end):	max. 10 N
Switch travel:	1 mm
Switching frequency:	1,000 /h
Bounce duration:	< 2 ms at 100 mm/s actuating speed
LED power consumption, pushbutton:	30 mA

3. Mounting

3.1 General mounting instructions



Please observe the relevant requirements of the standards EN ISO 12100, EN ISO 14119 and EN ISO 14120.



When using the DHS-U1 door handle system with solenoid interlock AZM40 or safety sensor RSS260 or RSS36, always observe the operating instructions of the devices and their actuators.

Any position is possible.

The system must not be used as an end stop.

Two holes for M6 screws (screws not included in delivery) must be provided for mounting of the DHS-U1. Tightening torque 3.5 Nm.



3.2 Mounting of the actuator / actuator insert

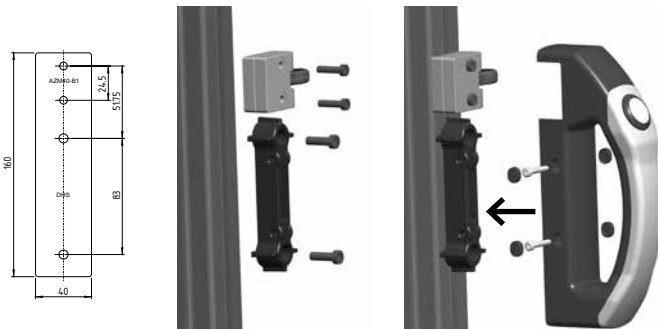
DHS-U1 with solenoid interlock AZM40

The AZM40-B1(-PH) actuator, available as an accessory, must be mounted at the designated position for use of the DHS-U1 in conjunction with an AZM40 solenoid interlock.

Actuator AZM40-B1 must be aligned and mounted in accordance with the drawing of the holder.

The mounting template (included in delivery) may be used for simplified mounting.

Mounting template



DHS-U1 with safety sensor RSS260 or RSS36

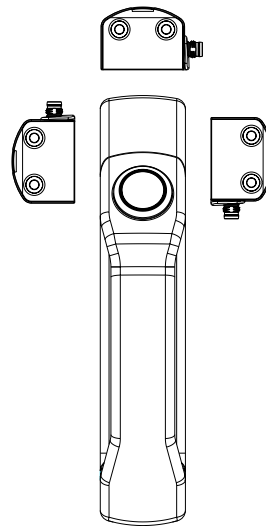
Actuator insert ACC-DHS-U1-INS-RST-U-2 (comprising actuator insert, RST-U-2 actuator and attachment screws), available as an accessory, must be used for use of the DHS-U1 with an RSS260 or RSS36 safety sensor. There is a lug and a hole at three possible positions on the inside of the insert to allow actuator RST-U-2 to be mounted. The RST-U-2 actuator must be mounted by the customer in the actuator insert, on the desired side, depending on the door hinge.



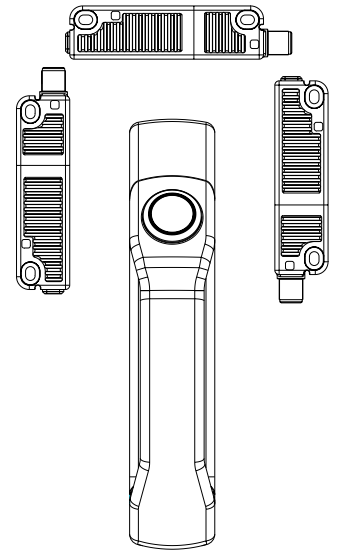
To ensure reliable detection of the RFID tag, only one actuator RST-U-2 may be mounted.

Installation positions DHS-U1 with RSS260 or RSS36

DHS-U1 and RSS260



DHS-U1 and RSS36



Information on the switching distances can be found in the ACC-DHS-U1-INS-RST-U-2 supplement to the operating instructions.

DHS-U1 without integrated actuator

When the DHS-U1 is used as a door handle without corresponding safety switchgear device, actuator insert DHS-U1-INS, available as an accessory, must also be used.



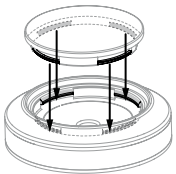
3.3 Mounting the pushbutton caps



The colour cover caps are only suitable for one-off installation. Disassembly of the caps could cause damages to the component. The caps must be mounted immediately after unpacking the door handle system, in order to avoid soiling of the inner pushbutton compartment by dirt particles / dust.

The colour cover caps (white, yellow, green, blue and red included in delivery) are fitted as follows:

1. Remove the colour cover caps from the supply kit
2. Position the colour cover caps and press down until you hear a "click" on engagement
3. Check the smooth actuation of the pushbutton caps



When checking the latter, the pushbutton must return autonomously from the actuated to the non-actuated state and the cap must be at the same height as the device edging.

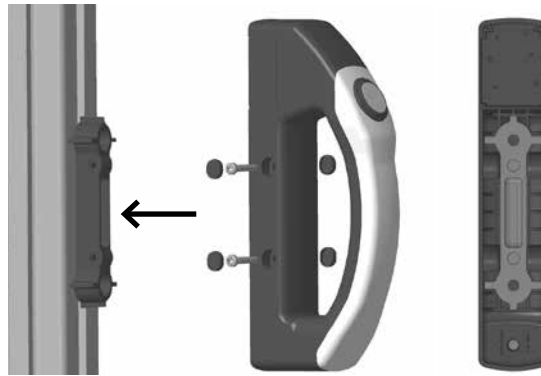
3.4 Mounting the door handle

When using the door handle with a safety sensor or without an integrated actuator, position the door handle and insert on the holder and secure to the holder at the side using the two supplied self-tapping screws. Depending on the installation situation, the self-tapping screws may be used from both sides. The sealing kit (included) can be used to cover the holes.

Two self-tapping screws (Torx Plus T20) are included in delivery for mounting of the door handle to the holder. Tightening torque 2.5 Nm.

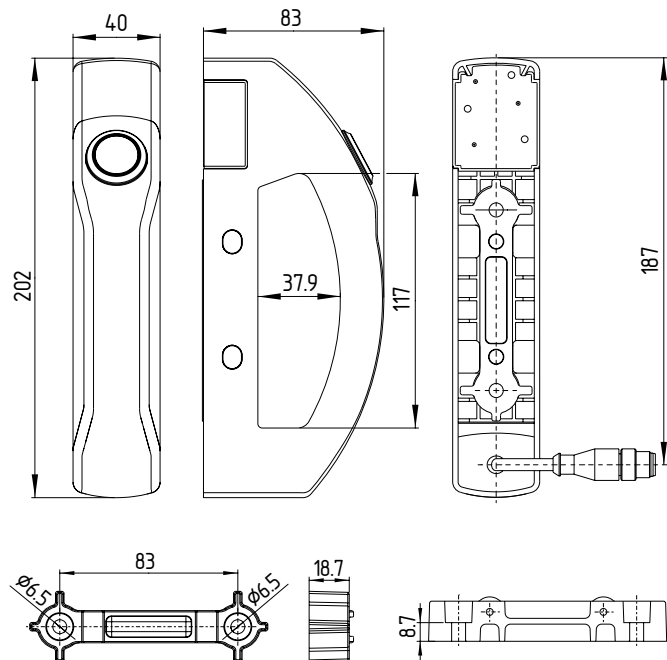
Attaching the sealing kit

- to seal the mounting holes
- as suitable tampering protection for the screw fixings



3.5 Dimensions

All measurements in mm.



4. Electrical connection

4.1 General information for electrical connection



The electrical connection may only be carried out by authorised personnel in a de-energised condition.

The required electrical cable and device fuse protection must be integrated in the installation.

4.2 Cable

When routing the cable, ensure that the holes (drilled by the customer) are free of burrs in order to prevent damage to the cable as it passes through.

The following minimum bending radii must be observed when routing the cable:

- with fixed routing (one-off bending): 27.5 mm
- with free routing (repeat bending) 55 mm

4.3 Door handle illumination

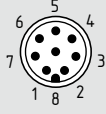
The system is equipped with RGB LEDs. With combined actuation of multiple base colours, the door handle can be illuminated in other colours in accordance with the following table.

Colour/LED inputs	Input red RGB LED	Input green RGB LED	Input blue RGB LED
Switched off	0	0	0
Red	1	0	0
Green	0	1	0
Blue	0	0	1
Yellow	1	1	0
Violet	1	0	1
Bright blue	0	1	1
White	1	1	1


0 = input off / 1 = input on

4.4 Connection example

Door handle system illuminated with operating element, connector 8-pole

Function	Pin assignment of the connector plug M12, 8-pole, A-coded	Colour code of the integrated cable
DHS-U1 illuminated with operating element		
24 VDC	1	WH
Input red RGB LED	2	BN
GND	3	GN
NO contact (illuminated pushbutton)	4	YE
Input green RGB LED	5	GY
Input blue RGB LED	6	PK
n.c.	7	BU
Input LED (in illuminated pushbutton)	8	RD

Door handle system illuminated without operating element or unilluminated with operating element, connector 5-pole

Function	Pin assignment of the connector plug M12, 5-pin, A-coded	Colour code of the integrated cable
DHS-U1 illuminated without operating element	DHS-U1 unilluminated with operating element	
		
24 VDC	24 VDC	BN
Input red RGB LED	NO contact (illuminated pushbutton)	WH
GND	GND	BU
Input green RGB LED	Input LED (in illuminated pushbutton)	BK
Input blue RGB LED	n.c.	RD / GY

5. Set-up and maintenance

5.1 Functional testing

The function of the component must be tested. The following conditions must be previously checked and met:

1. Correct fixing of the system.
2. The installation is executed according to the instructions.
3. The connection is executed correctly.
4. After inserting the pushbutton caps, check the correct seating and ease of actuation of the illuminated pushbutton.

5.2 Maintenance

In case of correct installation in accordance with the instructions described above, the component requires little maintenance. For use in extreme conditions, we recommend routine maintenance as follows:

1. Check the system for firm seating.
2. Remove particles of dust and soiling.
3. Check cable entry and connections.
4. Check the ease of actuation of the illuminated pushbutton.

6. Disassembly and disposal

6.1 Disassembly

The door handle system must be disassembled in a de-energised condition only.

6.2 Disposal



The door handle system must be disposed of in an appropriate manner in accordance with the national regulations and legislation.

7. Declaration of conformity

We hereby certify that the hereafter described components both in their basic design and construction conform to the applicable European Directives.

Relevant Directives:



2014/30/EU
2011/65/EU

Applied standards

EN 60947-5-1:2017 + AC:2020



The currently valid declaration of conformity can be downloaded from the internet at products.schmersal.com.

8. Special versions

The following information on special designs describes deviations or additions to the standard variants described above.

8.1 Special version -3219

Scope of delivery

- Actuator insert ACC-DHS-U1-INS included
(for use of the DHS-U1 without corresponding safety switchgear device)
- Blue colour cover cap

Different pin assignment

Function	Pin assignment of the connector plug M12, 5-pin, A-coded
DHS-U1-...-3219 illuminated with operating element	
24 VDC	1
NO contact (illuminated pushbutton)	2
GND	3
Input blue RGB LED	4
Input green RGB LED	5

8.2 Special version -3247

Scope of delivery

- Actuator insert ACC-DHS-U1-INS included
(for use of the DHS-U1 without corresponding safety switchgear device)

9. Contact

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