

Manual & Data sheet

Light / Sunlight evaluation + control instrument AS-1 with light / sunlight sensor FS-1

The light / sunlight evaluation+control instrument AS-1 with light / sunlight sensor FS-1 is a universal light measuring system to gather and evaluate light / sunlight intensity. Individual and convenient adjustable switching thresholds and delay times are set to control illumination, light, жалюзи, marquees, blinds, shutters, air conditioning, heaters, ventilation, flaps, roof hatches and build-ups.

The display at the control instrument shows the individual switching on/off thresholds and corresponding delay times. Furthermore the actual light intensity is displayed. The output relay, with potential-free changeover contact (no/nc), is operated, if adjusted threshold values are reached. The maintenance-free and weather-proofed (IP67) sunlight sensor FS-1 detects light / sunlight intensity. It emits a frequency signal, proportional to the measured value, to the control instrument AS-1.



reference values / Referenzwerte:

<i>sunlight / Sonnenlicht</i>	ca. 40.000 lx (= lm/m ²)
<i>office / Büro</i>	ca. 300...500 lx
<i>living room / Wohnraum</i>	ca. 50...200 lx

Connection – Installation – Commissioning:
 ! Connection, installation and commissioning only by qualified and skilled person with electrical education !
 ! Mount devices at the provided positions and wire according to the schematics !
Caution: Wrong connecting may cause damage of the instrument and sensor !
Check for correct wiring before switching on the power supply !

The light / sunlight evaluation + control instrument AS-1 enclosure can be fixed on a standard DIN-rail as well as on a mounting plate in a switch cabinet. The screw-terminal strip is pluggable. After switching on the power supply, the display will show the device name for 2 seconds. Hereafter the instrument is ready for operation.

The maintenance free and weather-proofed (IP67) sunlight sensor FS-1 is boxed in a weather-resistant plastic enclosure (IP67). It is powered by the control instrument AS-1.

The cable connection (recommended: LiY(ST)Y 4x 0.8Lg) between sensor ↔ control instrument should not be longer than 250 m. In case of high disturbing environment, the cable shield is recommended to connect one-sided to Ground (0 V) at the control instrument.

Adjustments and readouts:

Push-button 'S/t' not pressed

Display	Description / Readout		Adjustments	
line 1	current sunlight intensity	Sonne XX klx	none	
line 2	turn-on threshold	S _{ein} XX klx	Potentiometer S _{ein}	5...20 klx (= klm/m ²)
line 3	turn-off threshold	S _{aus} XX klx	Potentiometer S _{aus}	20...48 klx (= klm/m ²)

Push-button 'S/t' pressed

Display	Description / Readout		Adjustments	
line 1	current sunlight intensity	Sonne XX klx	none	
line 2	turn-on delay time	t _{ein} XX min.	Potentiometer t _{ein}	0...25 minutes
line 3	turn-off delay time	t _{aus} XX min.	Potentiometer t _{aus}	0...25 minutes

Readout for special cases

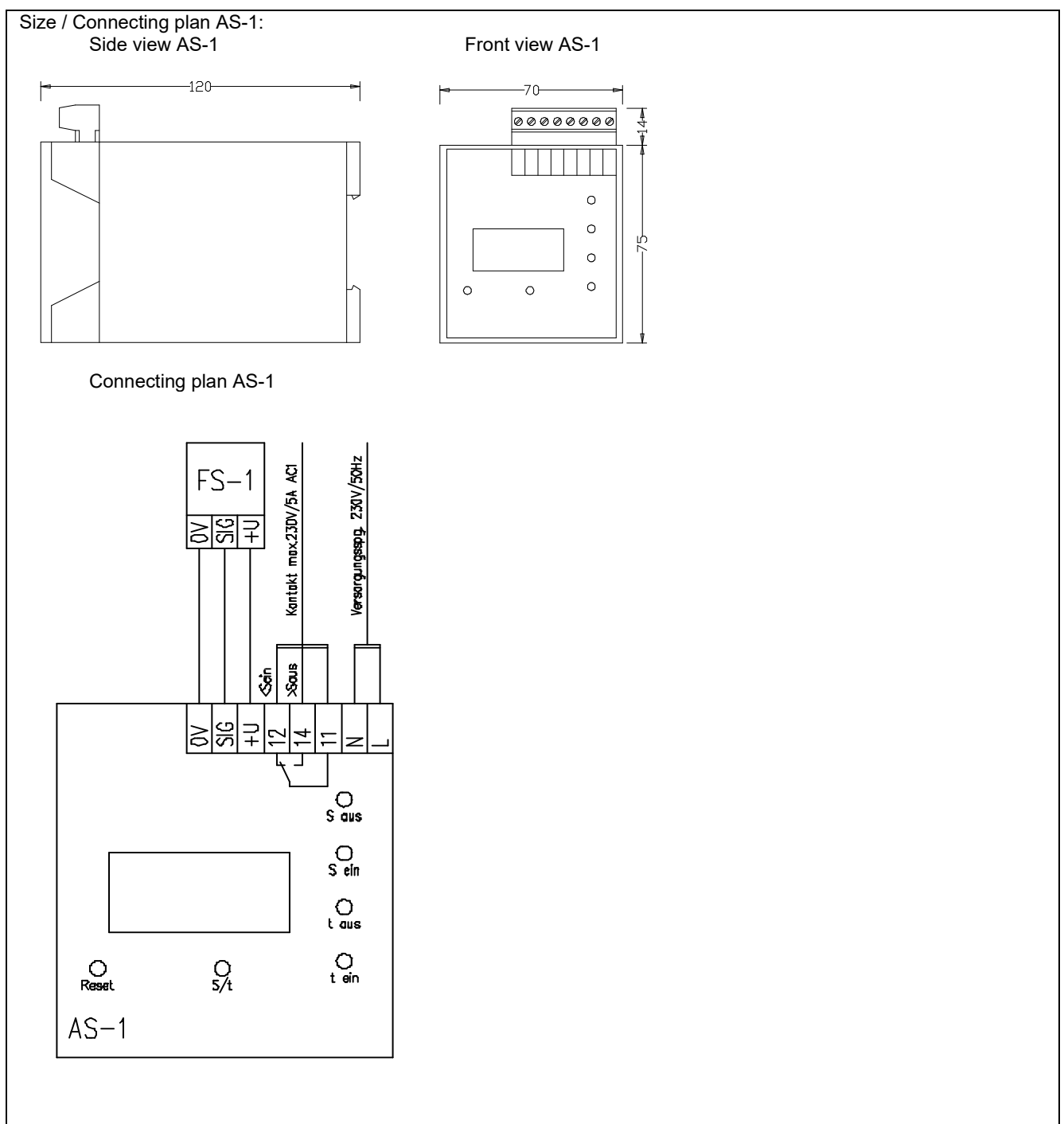
Display	Description / Readout		Comments
line 1	sensor error	Sonne ? 0 klx	check connection of sensor
line 1	sunlight intensity less than 5 klx	Sonne < 5 klx	value out of range
line 1	sunlight intensity more than 48 klx	Sonne >48 klx	value out of range
line 2	after power-on for 2 sec.	device name	none
line 3	relay activated / turned on	AKTIV	

Technical data light / sunlight evaluation + control instrument AS-1:

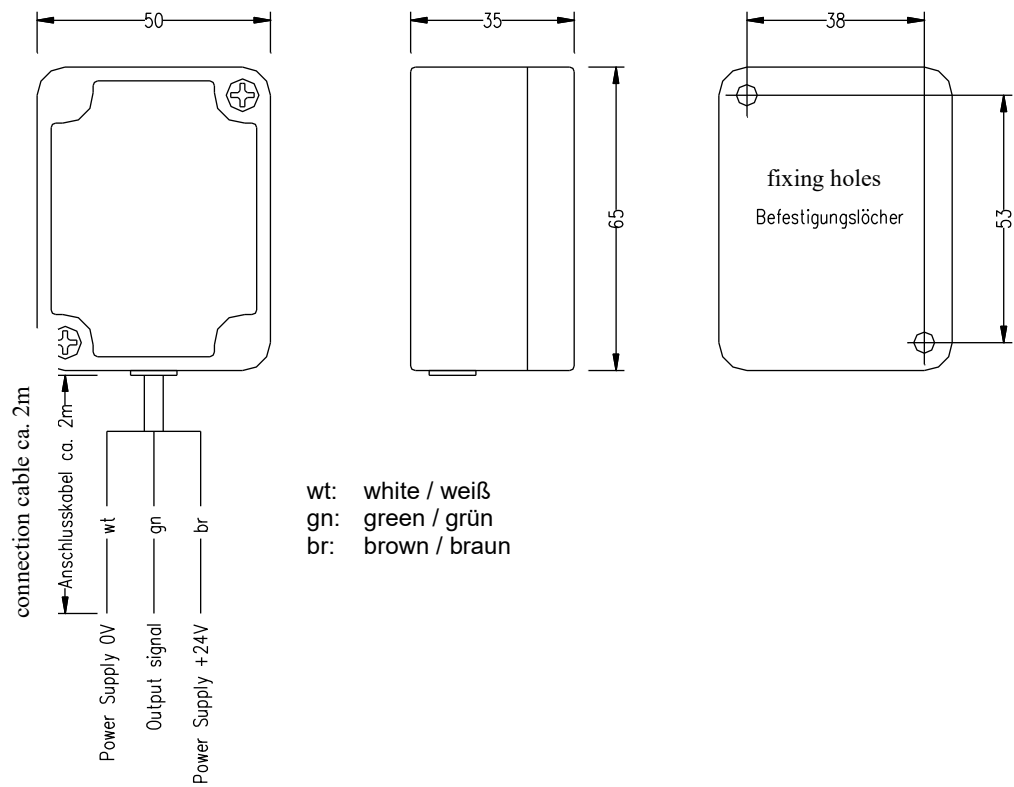
Operating voltage typ.: 230 V AC / 50 Hz \pm 5 %
 Input signal: 24V square-wave signal, 175...2000 Hz
 Output: change-over contact (no/nc), potential-free, 230 V / 5 A (AC1)
 Display: LC-Display, 3x 12 character, character height 5 mm
 Size housing: 70 x 75 x 120 mm (WxHxD)
 Ambient temperature: 0...+70 °C

Technical data light / sunlight sensor FS-1:

Operating voltage typ.: 24 V DC \pm 10 % (powered by control instrument AS-1)
 Measurement range: 5000...50000 lx (= lm/m²)
 Ambient temperature: -30...+80 °C
 Protection degree: IP 67
 Output signal: 24V square-wave signal: 175...2000 Hz, (open-collector, with protecting resistor)
 Connection: ca. 2 m wired-ready cable, 3-wire, 3x 0.25 mm²
 Size housing: 50 x 65 x 35 mm (WxHxD)



Size / Connecting plan FS-1:



Installation and mounting:

Mount sensor in upright / vertical direction with max. grade / inclination of 30° (see picture above) and cable connection from bottom side.
 Select mounting place with direct sunlight without shades and obstacles (e.g. trees, buildings...).