



**Model Number**

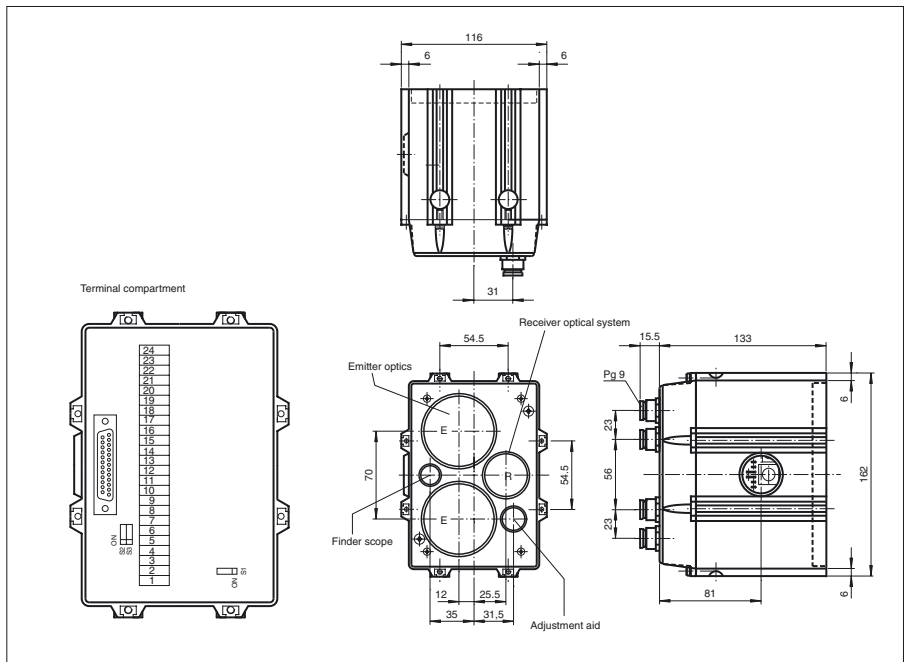
**LS600-DA-IBS/F1**

Optical data coupler

**Features**

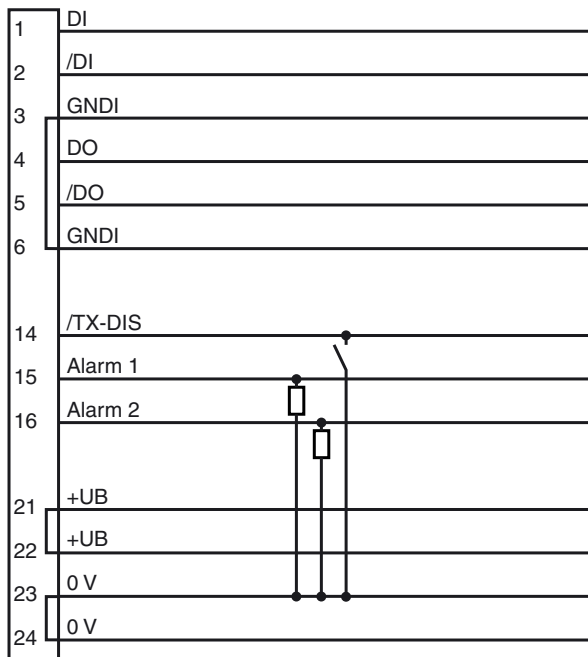
- Sensing range up to 250 m
- Data transmission up to 500 kbit/s
- Devices for INTERBUS
- Easy adjustment by integrated alignment LED and finder scope
- Connection with spring-loaded terminals

**Dimensions**



**Electrical connection**

Option:



○ = Light on  
● = Dark on

Release date: 2002-09-02 11:22 Date of issue: 2011-02-17 4 18553\_ENG.xml

## Technical data

### General specifications

Effective detection range	0 ... 200 m
Threshold detection range	250 m
Light source	IRED
Light type	modulated infrared light
Approvals	CE
Alignment aid	Telescopic sight, frontal red LED flashing, off with Signal > sufficient stability control
Transmission mode	FSK
Diameter of the light spot	5000 mm at a distance of 200 m
Angle of divergence	1.4 °
Ambient light limit	1000 Lux

### Indicators/operating means

Data flow display	LED green: emitter LED yellow: receiver
Function display	LED red: 1-fold stability control LEDgreen: Sufficient stability control
Controls	switch for bus bridging and grounding in terminal compartment

### Electrical specifications

Operating voltage	$U_B$	24 V DC $\pm$ 25 %
No-load supply current	$I_0$	450 mA
Data sampling blanking		emitter deactivation at 0 V
Data rate		0 ... 500 kBit/s
Operation frequency		F1 = 8.5 MHz

### Interface

Interface type	RS 422
----------------	--------

### Output

Output of the pre-fault indication	2 PNP-outputs, short-circuit protected, 30 V DC 0.1 A activated for single or sufficient stability control
------------------------------------	--

### Standard conformity

Standards	EN 60947-5-2
-----------	--------------

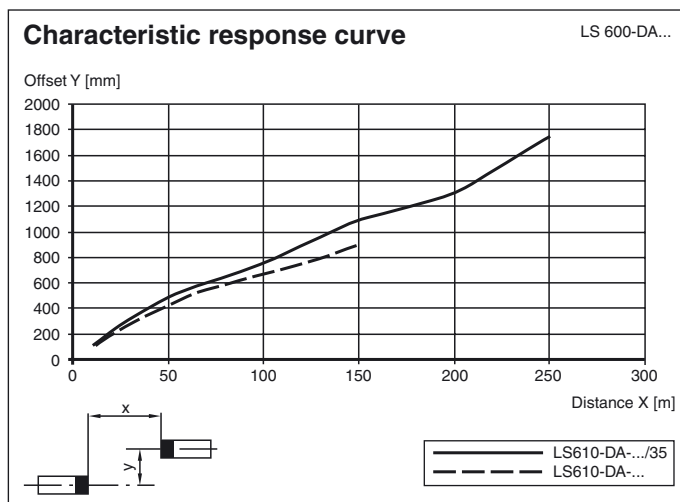
### Ambient conditions

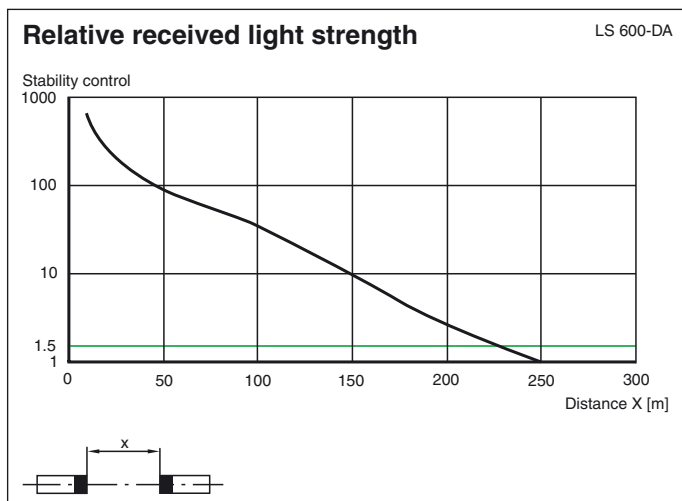
Ambient temperature	-20 ... 50 °C (-4 ... 122 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

### Mechanical specifications

Protection degree	IP65
Connection	4 PG9 cable glands, cage tension spring terminals in the terminal compartment
Material	
Housing	aluminium
Optical face	plastic lenses, glass windows
Mass	2000 g

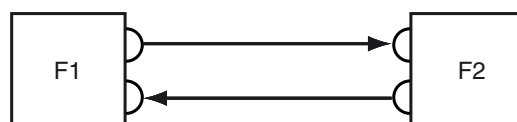
## Curves/Diagrams





## Function

An LS 600-DA-IBS with an average frequency F1 and an LS 600-DA-IBS with an average frequency F2 are required for a data transfer route.



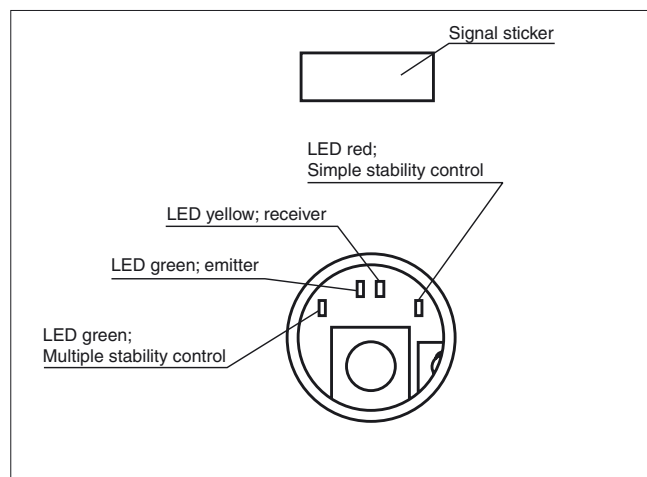
## Data transfer

The data is transferred in both directions with modulated infrared light. The information that is present on the input interface is modulated to the carrier signal by means of the frequency shift keying (FSK). The corresponding demodulation and output to the output interface take place in the receiver. The complete transfer process takes place without the use of a protocol.

## Function display/function reserve

The red function display LED lights up if the level of the received signal is sufficient for an error-free transfer. The transfer is enabled beginning at this signal level. If the green LED lights up, this indicates that functional reserve has been achieved.

An additional optical system has been integrated as an alignment aid. This system flashes red after the device is turned on and thus makes the device that is situated opposite clearly visible at a great distance. After the device has been adjusted for sufficient functional reserve, the indicator goes out.



## Interface

The 600 DA-IBS includes level regeneration as well as complete galvanic separation of the data stream circuits from the operating power supply.

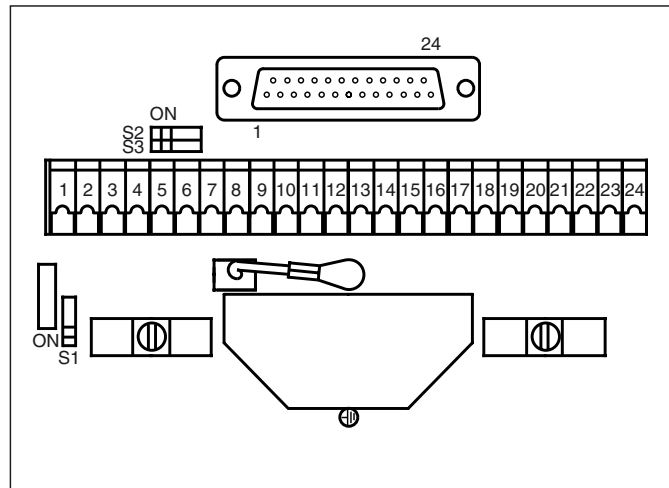
The housing connection of the data shield can be switched from galvanic (ON) to capacitive (OFF) with the S1 switch on the terminal space.

If the bus is active, a yellow LED lights up for the reception data and a green LED for the transmission data.

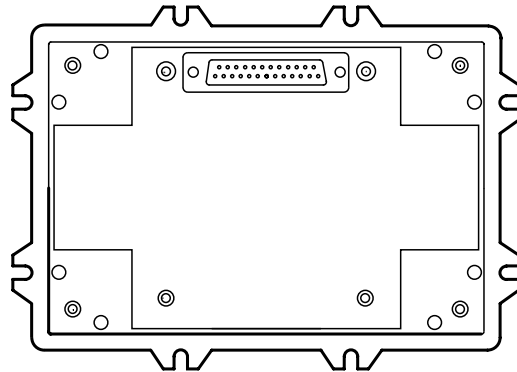
The emitter deactivation (0V on terminal 14) can be used to avoid interference from data telegrams that can occur when the light beam is interrupted. For this reason, emitter deactivation should be activated before a corresponding event takes place. Then the idle level "low" should be set on the output interface.

Switches S2 and S3 can be closed in the terminal space as an installation aid, this connects incoming and outgoing data lines with each other. This ensures that the signal will run through the loop during the installation as long as the data transmission light beam switches have not yet been placed in operation.

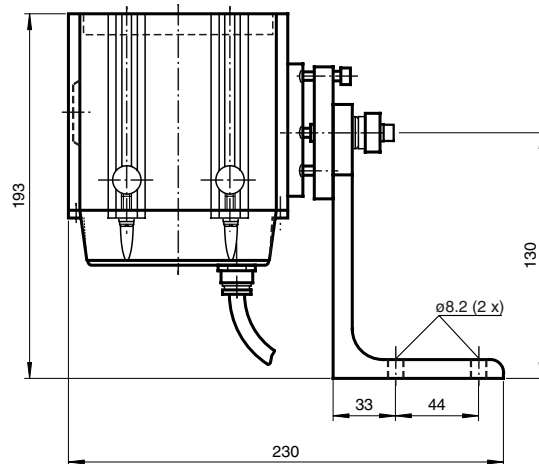
**Terminal compartment:**



**View of the housing without cover:**



**Mounting bracket**



Release date: 2002-09-02 11:22 Date of issue: 2011-02-17 418553\_ENG.xml