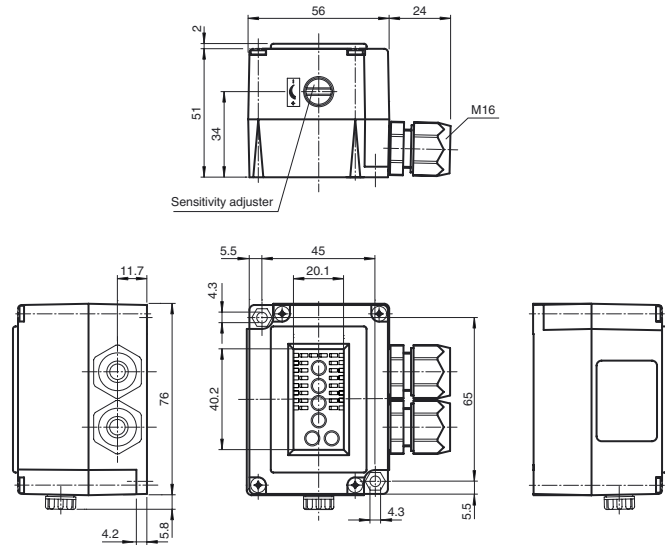## Dimensions

Model Number
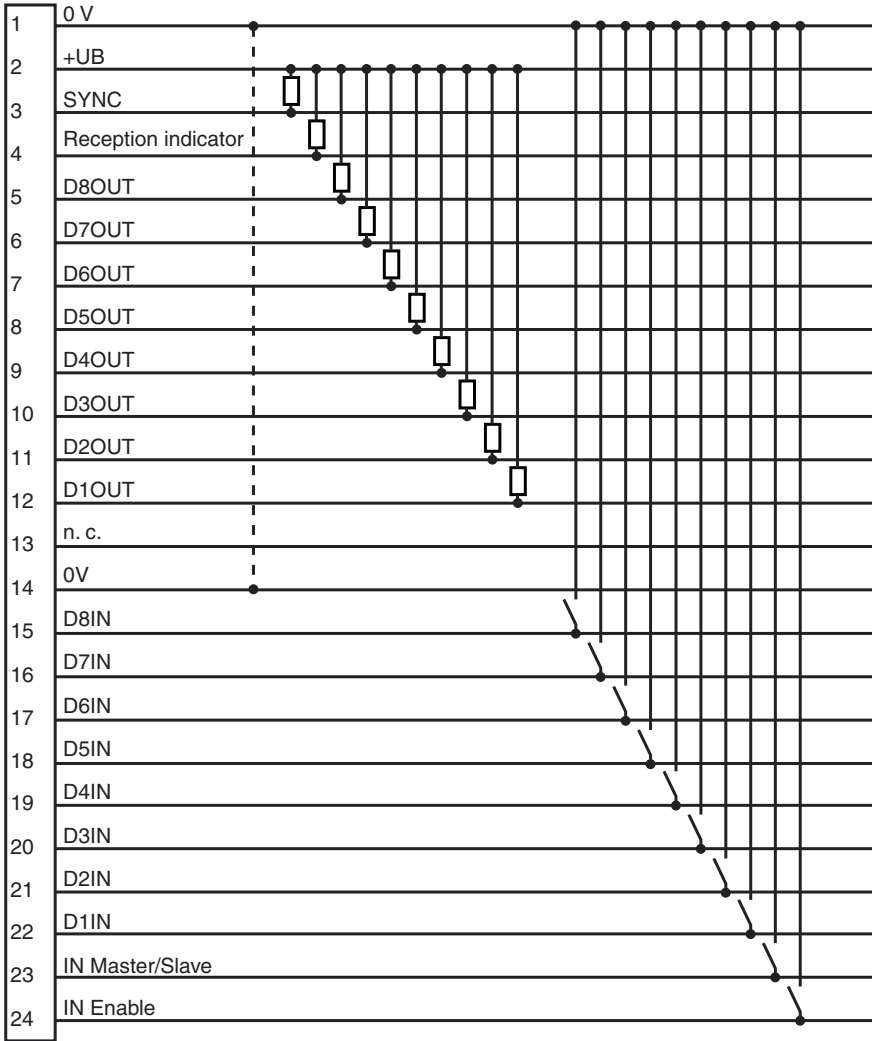
DAD15-8P-NPN

Optical data coupler

Features

• 8 bit parallel data transfer

• Very large angle of divergence

• Can be connected in series

• Connection with spring-loaded terminals

• Degree of protection IP67

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Electrical connection

1	0 V
2	+UB
3	SYNC
4	Reception indicator
5	D8OUT
6	D7OUT
7	D6OUT
8	D5OUT
9	D4OUT
10	D3OUT
11	D2OUT
12	D1OUT
13	n. c.
14	0V
15	D8IN
16	D7IN
17	D6IN
18	D5IN
19	D4IN
20	D3IN
21	D2IN
22	D1IN
23	IN Master/Slave
24	IN Enable

Accessories

OMH-DAD10
Mounting bracket

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical data

General specifications

Effective detection range	0 ... 1500 mm
Threshold detection range	2500 mm
Light source	IRED
Light type	modulated infrared light
Diameter of the light spot	approx. 1000 mm at 1.5 m
Angle of divergence	± 20 °
Ambient light limit	5000 Lux
Cycle time	35 ms

Functional safety related parameters

$MTTF_d$	200 a
Mission Time (T_M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green
Data flow indicator	Inputs: 8 LEDs green Outputs: 8 LEDs red
Control elements	sensitivity adjustment
Control elements	Operating mode switch 4: Behavior when beam is broken Switches 1+2: Address

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	40 mA
Data sampling blanking		Enable input emitter deactivation
Data rate		225 Bit/s

Interface

Interface type	8 bit parallel, bidirectional 10 inputs, NPN ; 10 outputs, NPN

Output

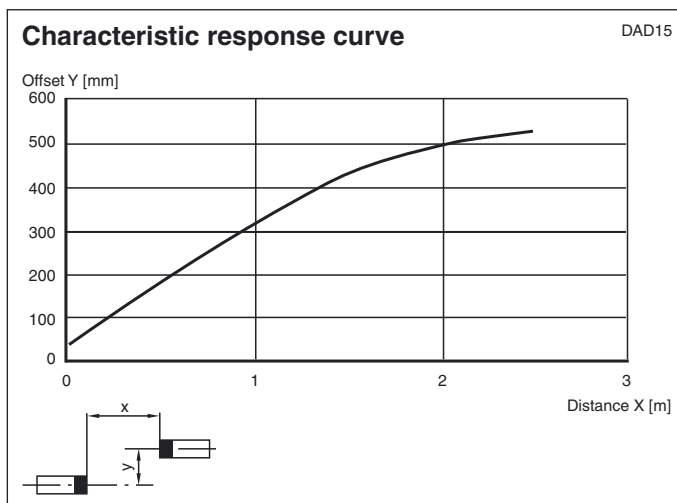|	
Switching voltage	max. 30 V DC
Switching current	max. 200 mA per channel , short-circuit protected , total ≤ 800 mA

Ambient conditions

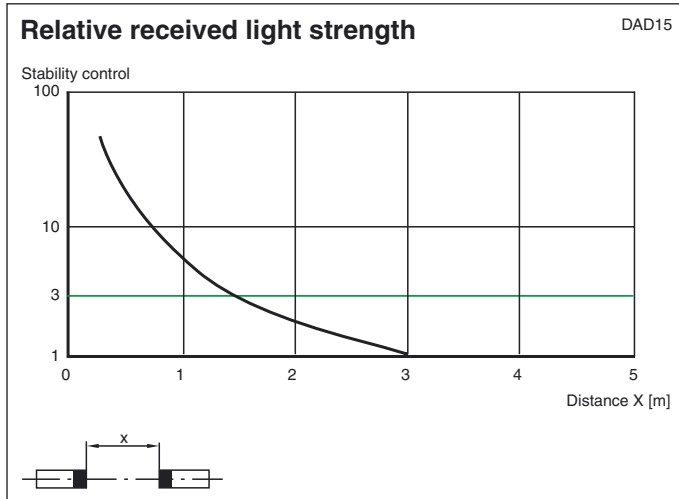|	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

Mechanical specifications

Degree of protection	IP67
Connection	2 M16 cable glands, tension spring terminals in the terminal compartment
Material	
Housing	Terluran, black
Optical face	glass
Mass	170 g

Approvals and certificates

Approvals	CE

Curves/Diagrams

Characteristic response curve   DAD15

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Relative received light strength DAD15

Stability control

Function

The DAD15-8P-NPN can be used to transfer data words eight bits wide bidirectionally.
A device pair is required to set up a transmission route. One device is operated as the MASTER (low level on the Master/Slave input) and the second one as the SLAVE (high level on the Master/Slave input).
All binary control signals present in parallel on inputs D1 - D8 are converted serially into an 8-bit sequence in the device, are transferred over the light route and are again applied in parallel in the receiver to outputs D1 - D8. Interference-resistant PPM modulation is used to transfer binary signals. The entire cycle during which the two current 8-bit words are transferred one after the other in both directions, in the time multiplex procedure, lasts 35 ms. This corresponds to a data rate of 350 Baud. This time multiplex procedure is of no significance to the user, since the last data to be received is stored and is available on the outputs until the next change is made.

Output behaviour when the beam of light is interrupted

The behaviour of the data outputs when the light beam is broken can be adjusted with the aid of the 4 switch (data latch):
OFF: Data outputs are turned off when the light beam is broken.
ON: The last data to be received remains intact on the outputs when the light beam is broken.

Input/output / emitter deactivation

A low level on the ENABLE input is required to operate the DAD15-8P-NPN. If there is a high level on the ENABLE input, the emitter will be turned off.
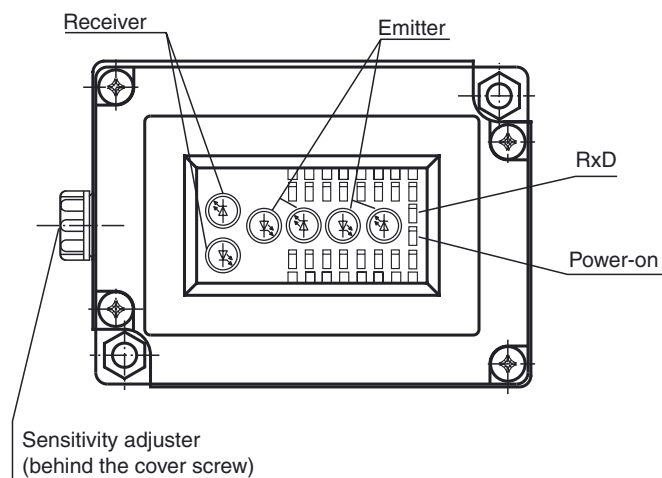The ENABLE input has no function in SLAVE mode.

Inputs and outputs, reception indicator:

The states of data inputs and outputs are displayed individually via LEDs. A low level on the input is indicated by a green LED. A red LED indicates an active output.
Correct reception is indicated with the output and the RECEPTION INDICATOR LED.
The SYNC output indicates the end of a transmit or receive cycle. Output data are valid with a ascending edge and new input data can be read.

Receiver   Emitter

RxD

Power-on

Sensitivity adjuster
(behind the cover screw)

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Chaining

The SYNC output can also be used to start an additional EN-ABLE input. Up to four MASTERS can be chained together in this manner. The devices must then be addressed by means of the A1 and A2 address switches. The SLAVE belonging to the MASTER in question requires the same address switch setting.

Arrangement and mounting

The DAD15 data light barrier consists of an electronics unit with spring-loaded terminals and 2 M16 cable glands.
The electronics unit is connected with an internal connector.
It is also fastened to it with 4 screws.

Accessories:

OMH-DAD10 mounting angle

Timing

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