

Data Sheet

LWL_TX_HFBR

Optical fiber interface with electrical input

Part No.: AA-10367-002/012



Picture shows AA-10367-002 (POF)

Features

- Glass or POF interface (variant)
- BNC coaxial input connector on request
- Status LED
- compact in size
- DIN rail mounting
- Easy handling
- Low cost

Rev.	Remarks / changes	created		checked		released	
		AST	25.10.14	FF	29.10.14	AST	29.10.14
01	Initial	AST	25.10.14	FF	29.10.14	AST	29.10.14
02	Small changes	AST	12.11.14	FF	12.11.14	AST	12.11.14

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1. Introduction

1.1. Description

This device is mainly used as an electrical to optical converter which can easily be used in DIN rail applications. See also [Part number](#).

1.2. Electrical interface

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input voltage	V	DC	4.5	24	28	VDC
Current consumption	I	Constant current		0.04		A

1.3. Optical interface

1.3.1. Optical signal transmitter HFBR-1414

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Signal high	P _{Inp_high}	T _{amb} = 25°C, 1m 200 μm PCS Fiber	-12	-	-	dBm
Signal low	P _{Inp_low}	T _{amb} = 25°C, 1m 200 μm PCS Fiber	-	-	-43	dBm
Data rate	f	@ 2000m distance and 62,5/125μm			5	MBd
Plug type on optical cable (customer side)		01-H200/VJZ-D26 (200μm)				

1.3.2. Optical signal transmitter HFBR-1528

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Signal high	P _{Inp_high}	T _{amb} = 25°C, 1m 1mm POF	-10	-	-	dBm
Signal low	P _{Inp_low}	T _{amb} = 25°C, 1m 1mm POF	-	-	-42	dBm
Data rate	f	@100m distance and POF cable	-	-	10	MBd
Plug type on optical cable (customer side)		HFBR-4532Z – GH-4002-P				

1.4. Environmental conditions

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Ambient temperature	T _{amb}	-	-25	-	+60	°C
Storage temperature	T _{store}	-	-40	-	+85	°C
Humidity	Hum	Non condensing	-	-	95	% RH
Operating altitude	Alt	-			3000	m
Vibration, shock			-	-	-	g

2. Connectors and indicators

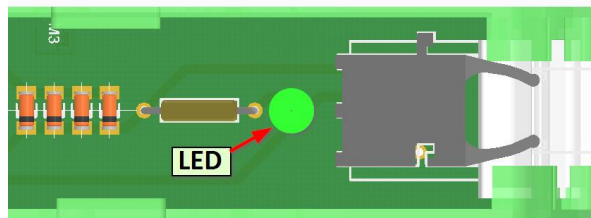
2.1. Terminal Block

Pin on J3	Symbol	Description
1	GND	Positive input voltage
2	V+	Negative input voltage



2.2. Indicators

Parameter	Symbol	Description
LED (green)	LED	LED will be illuminated when optical output is active (light ON)



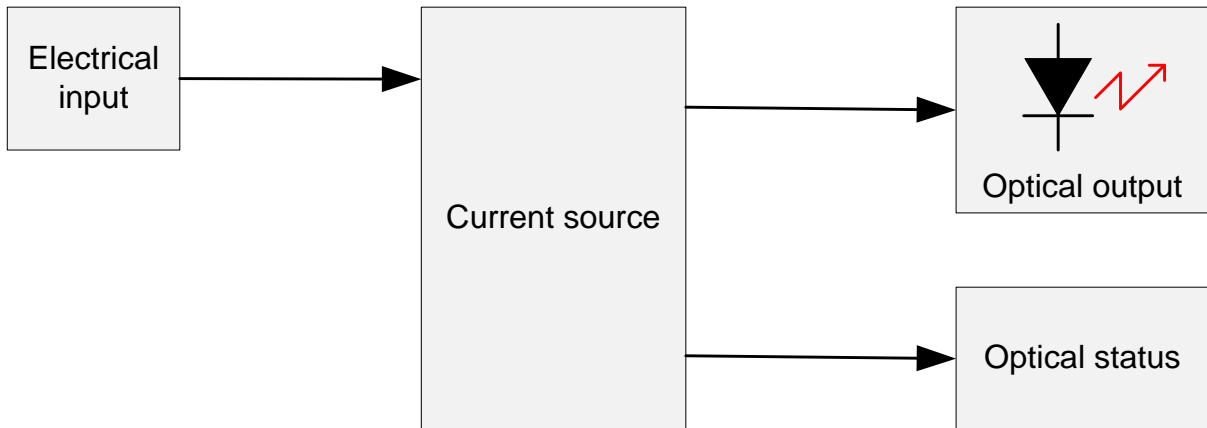
3. Function

This optical interface is used in applications where different input voltages are used to switch on the light. With our solution, one can vary the input voltage from 4.5V to 28V without any change in the output power of the light.

3.1. Instructions for use

- Make sure that the device works correctly before using in a critical application.
- Consult the according datasheet for the correct optical power for the application you want to operate with this device

3.2. Block diagram



3.3. Optical output

The optical output can be either a plastic optical fiber (POF) or glass (ST). On this device HFBR-1(4/5)xx types are used depending on the cable types. For more detailed information consult the datasheet from AVAGO.

http://www.avagotech.com/pages/en/fiber_optics/general_purpose_industrial_control_data_link_820nm/hfbr-1414z/
http://www.avagotech.com/pages/en/fiber_optics/general_purpose_industrial_control_data_link_650nm/hfbr-1528z/

4. Mechanics

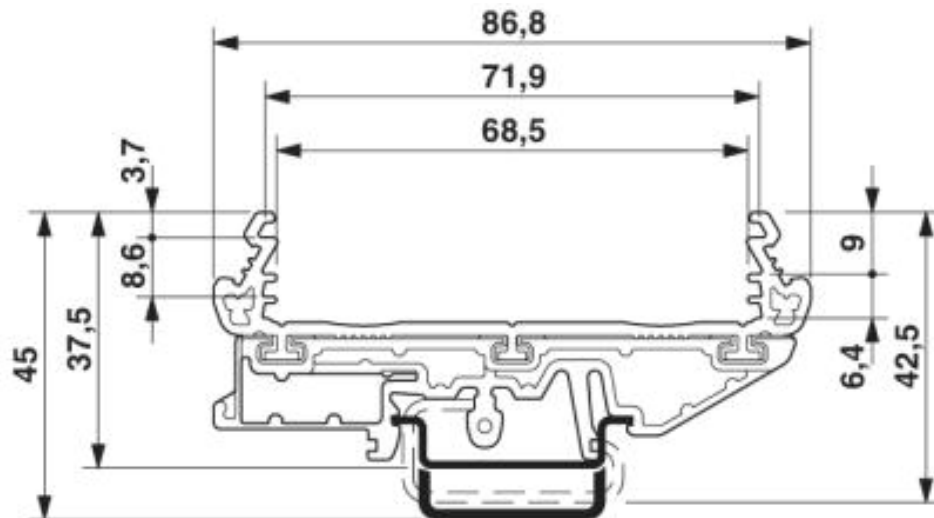
The LWL-TX-UM72 is built around a DIN rail mounting housing from the company Phoenix contact. For more information see also the Phoenix Contact home page.

<https://www.phoenixcontact.com/online/portal/ch?urlile=pxc-oc-itemdetail:pid=2907583&library=chde&tab=1>

4.1. Mechanical dimensions

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Weight	m	-		0.150		kg
Dimensions	WxDxH	-		(20 x 86.8 x 40)		mm

4.2. Mechanical drawing

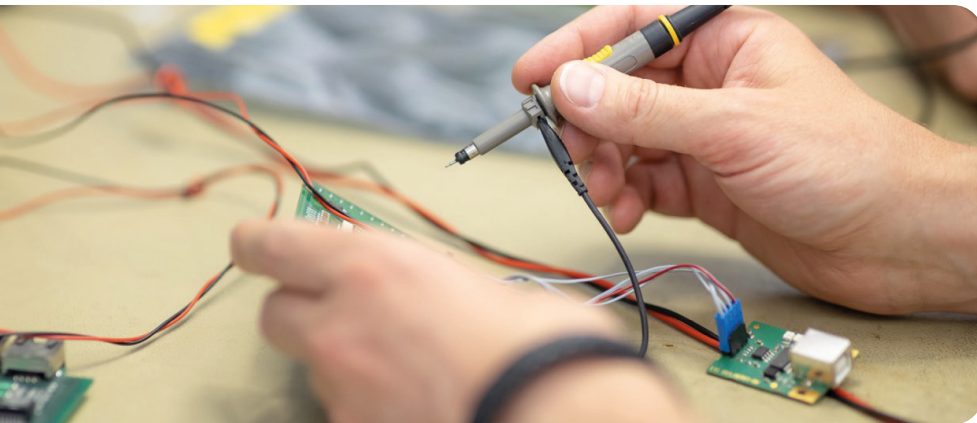


5. Part number

AA-10367-002	LWL_TX_HFBR1528_UM72	Plastic optical transmitter (POF) with electrical output
AA-10367-012	LWL_TX_HFBR1414_UM72	Glass optical transmitter (ST) with electrical output

For other custom specific versions please contact the manufacturer.

About Astrol



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Our main focus lies on power switching in the medium voltage range, from optimized gate drive units to fully integrated solutions of up to 100kV. Our products are designed, manufactured and tested in our production location and high voltage test laboratory in Othmarsingen and therefore are able to withstand harsh environments, extended temperatures and have a long lifetime.

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