

Signal Processing

Fiber-optic links for interference-free transmission of square-wave signals

HEAG 171, 172, 173, 174, 175, 176



HEAG 171, HEAG 173

Technical data - electrical ratings

Transmission frequency	≤250 kHz
Transmission length	≤300 m
Approval	CE

HEAG 171

Voltage supply	9...26 VDC; 5 VDC ±5 %
Consumption	≤200 mA
Inputs	4 x TTL
Input signals	K1, K2, K3, K4 + inverted
Outputs	4 x fiber-optic
Output signals	Fiber-optic 1, 2, 3 and 4

HEAG 172

Voltage supply	9...26 VDC
Consumption	≤200 mA
Inputs	4 x HTL
Input signals	K1, K2, K3, K4 + inverted
Outputs	4 x fiber-optic
Output signals	Fiber-optic 1, 2, 3 and 4

HEAG 173

Voltage supply	5 VDC ±5 %
Consumption	≤60 mA
Inputs	3 x fiber-optic
Input signals	Fiber-optic 1, 2 and 3
Outputs	3 x TTL
Output signals	K1, K2, K3 + inverted

HEAG 174

Voltage supply	9...26 VDC
Consumption	≤60 mA
Inputs	3 x fiber-optic
Input signals	Fiber-optic 1, 2 and 3
Outputs	3 x HTL

Features

- For high interference locations
- Converting standard square-wave signals into fiber-optic signals
- Each channel is coupled onto fiber-optic easy-to-fit plug
- Reconversion of optical to electrical signals in the receiver control cabinet (HEAG 173, HEAG 174)
- 3 different plug versions available
- Delay time over a 100 m length of fiber-optic is 1 µs
- Except of POF all fiber optic cable usable, e. g. PCF 200 µm, silica fiber 50 and 62.5 µm

Technical data - electrical ratings

Output signals	K1, K2, K3 + inverted
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HEAG 175

Voltage supply	9...26 VDC; 5 VDC ±5 %
Consumption	≤200 mA
Inputs	3 x TTL
Input signals	K1, K2, K3 + inverted
Outputs	3 x fiber-optic
Output signals	Fiber-optic 1, 2 and 3

HEAG 176

Voltage supply	9...26 VDC
Consumption	≤200 mA
Inputs	3 x HTL
Input signals	K1, K2, K3 + inverted
Outputs	3 x fiber-optic
Output signals	Fiber-optic 1, 2 and 3

Technical data - mechanical design

HEAG 171, HEAG 172

Dimensions W x H x L	122 x 122 x 80 mm
Protection DIN EN 60529	IP 65
Operating temperature	-20...+70 °C (without dew)
Connection	3x cable gland M20x1.5 4x cable gland M16x1.5

HEAG 173, HEAG 174, HEAG 175, HEAG 176

Dimensions W x H x L	50 x 75 x 55 mm
Protection DIN EN 60529	IP 20
Operating temperature	-20...+50 °C (without dew)
Connection	Screw terminal connector 3x connector (VL, ST or SMA)

HEAG 171, 172, 173, 174, 175, 176

Part number

HEAG171

Type of plug connector
 VL Type VL
 ST Type ST
 SMA Type SMA

Voltage supply
 TTL 5 VDC
 R 9...26 VDC

HEAG173

Type of plug connector
 VL Type VL
 ST Type ST
 SMA Type SMA

HEAG175

Type of plug connector
 VL Type VL
 ST Type ST
 SMA Type SMA

Voltage supply
 TTL 5 VDC
 R 9...26 VDC

HEAG172

Type of plug connector
 VL Type VL
 ST Type ST
 SMA Type SMA

HEAG174

Type of plug connector
 VL Type VL
 ST Type ST
 SMA Type SMA

HEAG176

Type of plug connector
 VL Type VL
 ST Type ST
 SMA Type SMA

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Terminal assignment

Transmitter HEAG 171, HEAG 172

Terminal 1

Terminal 2

* HEAG 172 without inverted signals:
Link output UB/2 to input $\overline{K1}$ $\overline{K2}$ $\overline{K3}$ $\overline{K4}$

Transmitter HEAG 175, HEAG 176

Terminal	Assignment
1	+UB
2	GND
3	K1
4	$\overline{K1}$
5	K2
6	$\overline{K2}$
7	K3
8	$\overline{K3}$
9	UB/2*

1 2 3 4 5 6 7 8 9

* HEAG 176 without inverted signals:
Link output UB/2 to input $\overline{K1}$ $\overline{K2}$ $\overline{K3}$

Receiver HEAG 173, HEAG 174

Terminal	Assignment
1	+UB
2	GND
3	K1
4	$\overline{K1}$
5	K2
6	$\overline{K2}$
7	K3
8	$\overline{K3}$
9	n.c.

1 2 3 4 5 6 7 8 9

Jumper position Transmitter
HEAG 171, HEAG 172, HEAG 175, HEAG 176

Position	Transmitter power
	LOW
	LOW
	MIDDLE
	HIGH

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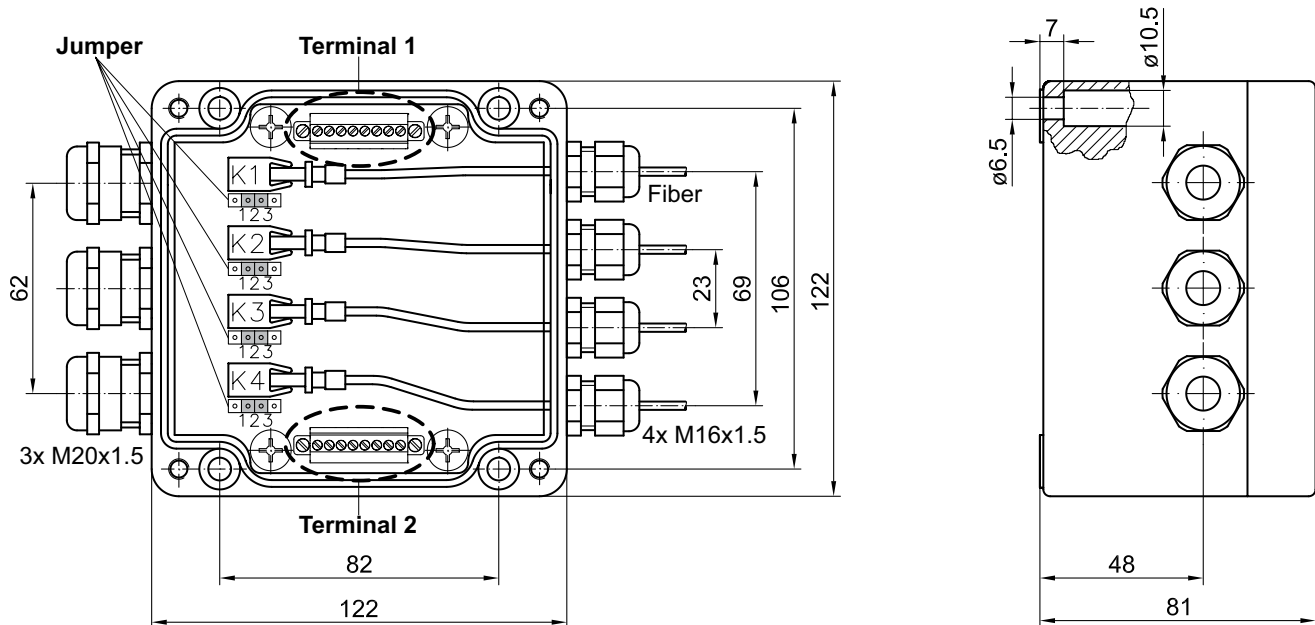
8/11/2017

Subject to modification in technic and design. Errors and omissions excepted.

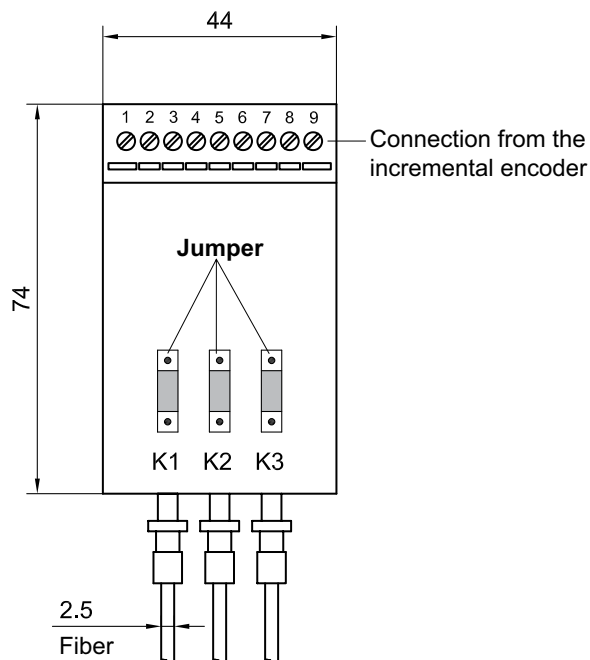
HEAG 171, 172, 173, 174, 175, 176

Dimensions

Emitter HEAG 171 and HEAG 172



Emitter HEAG 175 and HEAG 176



Receiver HEAG 173 and HEAG 174

