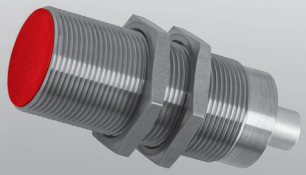
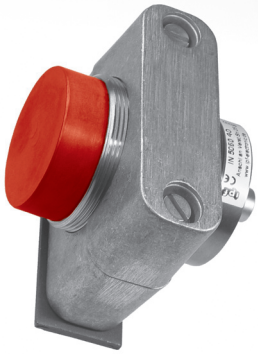
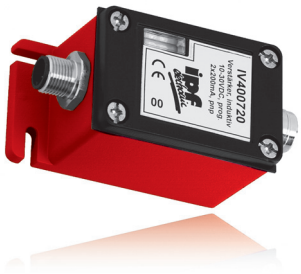






- inductive high temperature sensors
  up to +230°C
  connection to amplifier

high temperature sensors

inductive sensors

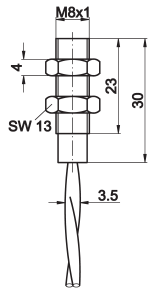
2350 high temperature sensors

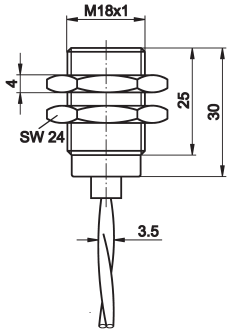
inductive sensors from -25 up to max. +230°C connection to amplifier															
dimensions	sensing range sn [mm]						flush	non-flush	length [mm]	10 ... 30V DC /pnp	7 ... 35V DC / pnp	sensor side: lemosa connector	amplifier side M12-connector	teflon cable	PUR-cable	page
	2	5	10	15	20	25										
M8x1	X						X		30				X	X		3
M18x1		X					X		30 - 70				X	X		3
M30x1.5			X				X		70 - 84			X	X	X		4
M30x1.5				X				X	79 - 91			X	X	X		4
M50x1.5					X		X		51 - 64			X	X	X		5
M50x1.5						X		X	63.5 - 84			X	X	X		6
amplifiers for inductive sensors up to +230°C																
M12x1											X				X	7
40										X						8-9
85										X						8-9

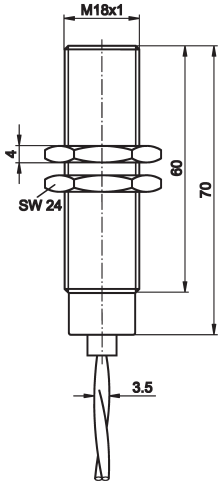
accessories	
cable sockets	10
connection, mounting material	11

high temperature sensors 2350

article-no.	**IB086050**	**IB186050**	**IB186053**
sensing range	**2mm**	**5mm**	**5mm**
mounting	**flush**	**flush**	**flush**
connection	**3m teflon-cable/ M12-connector**	**3m teflon-cable/ M12-connector**	**3m teflon-cable/ M12-connector**
article-no.	**-**	**IB186051**	**-**
sensing range	**-**	**5mm**	**-**
mounting	**-**	**flush**	**-**
connection	**-**	**5m teflon-cable/ M12-connector**	**-**
article-no.	**-**	**IB186052**	**-**
sensing range	**-**	**5mm**	**-**
mounting	**-**	**flush**	**-**
connection	**-**	**10m teflon-cable/ M12-connector**	**-**







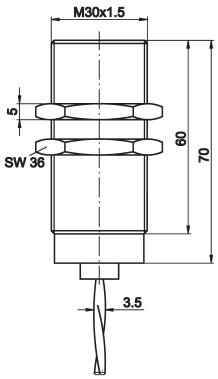
TECHNICAL DATA

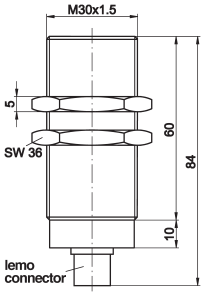
sensing range (Sn)	2mm	5mm	5mm
mounting	flush	flush	flush
output signal	see page 7 to 8	see page 7 to 8	see page 7 to 8
operating voltage	see page 7 to 8	see page 7 to 8	see page 7 to 8
hysteresis	2 ... 15%	2 ... 15%	2 ... 15%
sampling frequency	300Hz	300Hz	300Hz
reverse polarity protection	+	+	+
dimensions	M8x1	M18x1mm	M18x1mm
length (thread/complete)	23mm/30mm	25mm/30mm	60mm/70mm
housing material	stainless steel	stainless steel	stainless steel
front cap material	vectra®	vectra®	vectra®
operating temperature	-25 ... +140°C	0 ... +230°C	-25 ... +230°C
system of protection (EN 60529)	IP50	IP50	IP50
connection	3m teflon-cable/M12-connector	see above	3m teflon-cable/M12-connector
connection accessories	-	-	-
mounting accessories	**AY000098**	**AY000100**	**AY000100**

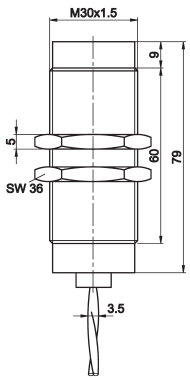
inductive sensors

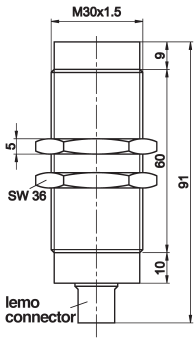
2350 high temperature sensors

article-no.	**IB306050**	**IB306040**	**IN306050**	**IN306040**
sensing range	**10mm**	**10mm**	**15mm**	**15mm**
mounting	**flush**	**flush**	**non-flush**	**non-flush**
connection	**3m teflon-cable/ M12-connector**	**lemo-connector**	**3m teflon-cable/ M12-connector**	**lemo-connector**
article-no.	**IB306051**	**-**	**IN306051**	**-**
sensing range	**10mm**	**-**	**15mm**	**-**
mounting	**flush**	**-**	**non-flush**	**-**
connection	**5m teflon-cable/ M12-connector**	**-**	**5m teflon-cable/ M12-connector**	**-**
article-no.	**IB306052**	**-**	**IN306052**	**-**
sensing range	**10mm**	**-**	**15mm**	**-**
mounting	**flush**	**-**	**non-flush**	**-**
connection	**10m teflon-cable/ M12-connector**	**-**	**10m teflon-cable/ M12-connector**	**-**
article-no.	**-**	**-**	**IN306053**	**-**
sensing range	**-**	**-**	**15mm**	**-**
mounting	**-**	**-**	**non-flush**	**-**
connection	**-**	**-**	**15m teflon-cable/ M12-connector**	**-**





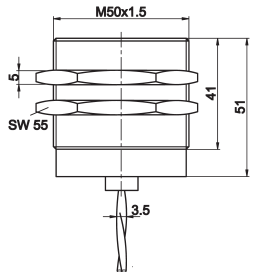


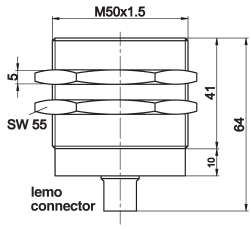


TECHNICAL DATA

sensing range (Sn)	10mm	10mm	15mm	15mm
mounting	flush	flush	non-flush	non-flush
output signal	see page 7 to 8	see page 7 to 8	see page 7 to 8	see page 7 to 8
operating voltage	see page 7 to 8	see page 7 to 8	see page 7 to 8	see page 7 to 8
hysteresis	2 ... 15%	2 ... 15%	2 ... 15%	2 ... 15%
sampling frequency	200Hz	200Hz	150Hz	150Hz
reverse polarity protection	+	+	+	+
dimensions	M30x1.5	M30x1.5	M30x1.5	M30x1.5
length (thread/complete)	60mm / 70mm	60mm / 84mm	60mm / 79mm	60mm / 91mm
housing material	stainless steel	stainless steel	stainless steel	stainless steel
front cap material	vectra®	vectra®	vectra®	vectra®
operating temperature	-25 ... +230°C	-25 ... +230°C	-25 ... +230°C	-25 ... +230°C
system of protection (EN 60529)	IP50	IP50	IP50	IP50
connection	see above	see above	see above	see above
connection accessories	-	e.g. **VK206941**	-	e.g. **VK206941**
mounting accessories	**AY000101**	**AY000101**	**AY000101**	**AY000101**

article-no.	**IB506050**	**IB506040**
sensing range	**20mm**	**20mm**
mounting	**flush**	**flush**
connection	**3m teflon-cable/ M12-connector**	**lemo-connector**
article-no.	**IB506051**	**-**
sensing range	**20mm**	**-**
mounting	**flush**	**-**
connection	**5m teflon-cable/ M12-connector**	**-**
article-no.	**IB506052**	**-**
sensing range	**20mm**	**-**
mounting	**flush**	**-**
connection	**10m teflon-cable/ M12-connector**	**-**





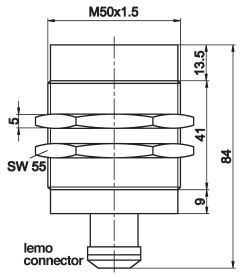
TECHNICAL DATA

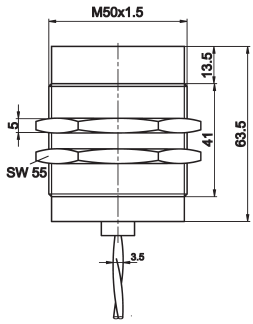
sensing range (Sn)	20mm	20mm
output signal	see page 7 to 8	see page 7 to 8
mounting	flush	flush
operating voltage	see page 7 to 8	see page 7 to 8
hysteresis	2 ... 15%	2 ... 15%
sampling frequency	150Hz	150Hz
reverse polarity protection	+	+
dimensions	M50x1.5mm	M50x1.5mm
length (thread/complete)	41mm / 51mm	41mm / 64mm
housing material	stainless steel	stainless steel
front cap material	vectra®	vectra®
operating temperature	-25 ... +230°C	-25 ... +230°C
system of protection (EN 60529)	IP50	IP50
connection	see above	see above
connection accessories	-	e.g. **VK206941**
mounting accessories	**AY000102**	**AY000102**

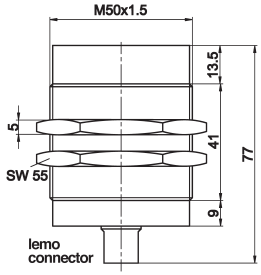
inductive sensors

2350 high temperature sensors

article-no.	**IN50C543**	**IN506050**	**IN506040**
sensing range	**25mm**	**25mm**	**25mm**
mounting	**non-flush**	**non-flush**	**non-flush**
connection	**lemo-connector / IP68**	**3m teflon-cable/ M12-connector**	**lemo-connector**
article-no.	**-**	**IN506051**	**-**
sensing range	**-**	**25mm**	**-**
mounting	**-**	**non-flush**	**-**
connection	**-**	**5m teflon-cable/ M12-connector**	**-**
article-no.	**-**	**IN506052**	**-**
sensing range	**-**	**25mm**	**-**
mounting	**-**	**non-flush**	**-**
connection	**-**	**10m teflon-cable/ M12-connector**	**-**



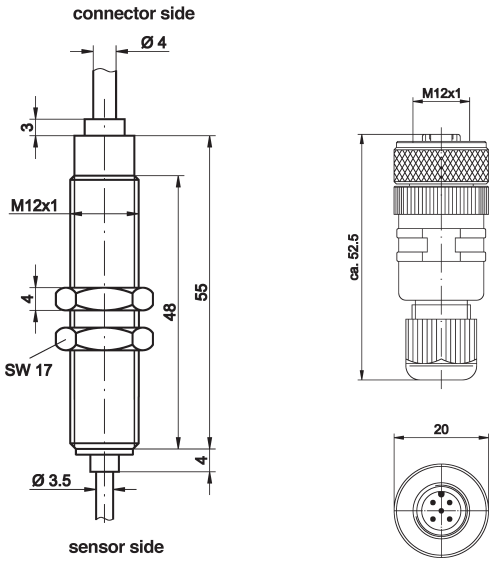




TECHNICAL DATA

sensing range (Sn)	25mm	25mm	25mm
mounting	see page 7 to 8	non-flush	non-flush
output signal	see page 7 to 8	see page 7 to 8	see page 7 to 8
operating voltage	see page 7 to 8	see page 7 to 8	see page 7 to 8
hysteresis	2 ... 15%	2 ... 15%	2 ... 15%
sampling frequency	150Hz	150Hz	150Hz
reverse polarity protection	+	+	+
dimensions	M50x1.5mm	M50x1.5mm	M50x1.5mm
length (thread/complete)	41mm / 64mm	41mm / 63.5mm	41mm / 77mm
housing material	stainless steel	stainless steel	stainless steel
front cap material	vectra®	vectra®	vectra®
operating temperature	-25 ... +230°C	-25 ... +230°C	-25 ... +230°C
system of protection (EN 60529)	IP68	IP50	IP50
connection	see above	see above	lemo-connector
connection accessories	e.g. **VKB0C590**	-	e.g. **VK206941**
mounting accessories	**AY000102**	**AY000102**	**AY000102**

article-no.	**IV120450**
connection	**sensor: M12-cable socket 300mm supply / connection: 2m PUR cable**



M12-cable socket

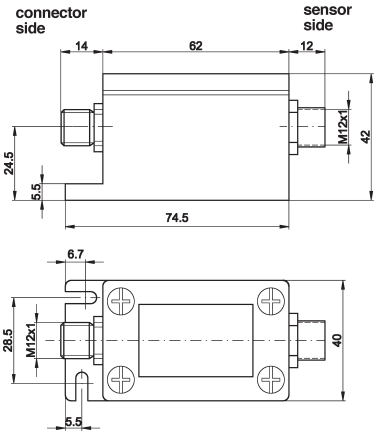
TECHNICAL DATA

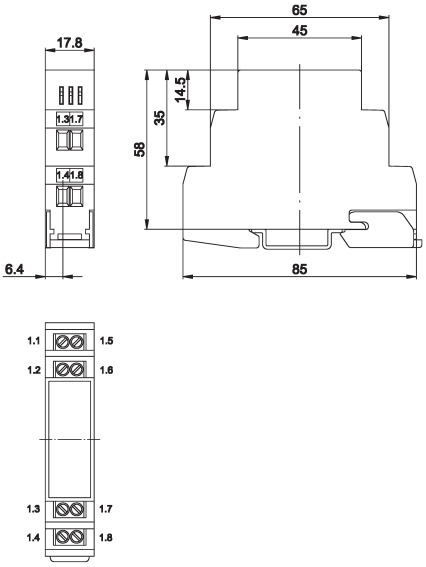
output signal	pnp / no, pnp / nc
operating voltage	7 ... 35V DC
current consumption (w/o load)	≤ 25mA
output current (max. load)	200mA
voltage drop (max. load)	2.0V DC
sampling frequency	1kHz
short-circuit protection	+
reverse polarity protection	+
dimensions	M12x1mm
housing material	stainless steel
length (thread/complete)	48mm / 55mm
operating temperature	-25 ... +75°C
system of protection (EN 60529)	IP65
connection	see above
mounting accessories	**AY000099**

inductive sensors

2350 high temperature sensors

article-no.	**IV400720**	**IV850700**
connection	**sensor: M12-cable socket supply / output: M12-connector**	**sensor: terminals supply / output: terminals**
version	**integrated line monitoring**	**integrated line monitoring**





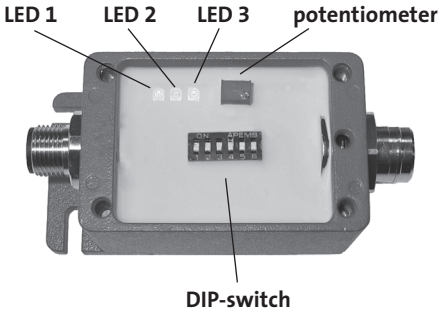
TECHNICAL DATA

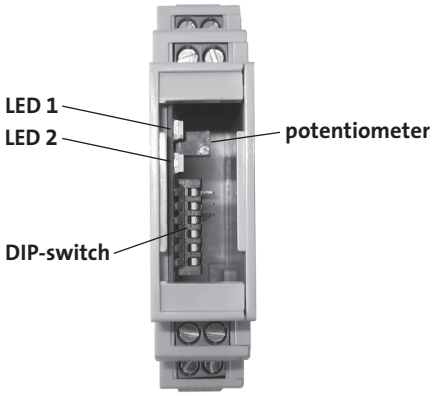
output signal	pnp	pnp
operating voltage	10 ... 30V DC	10 ... 30V DC
current consumption (w/o load)	≤ 25mA	≤ 25mA
output current (max. load)	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC
sampling frequency	1kHz	1kHz
Anzeige (Schaltzustand)	+	+
short-circuit protection	+	+
reverse polarity protection	+	+
dimensions	see above	see above
housing material	aluminium	plastic
length (thread/complete)	- / -	- / -
operating temperature	-25 ... +75°C	-25 ... +75°C
system of protection (EN 60529)	IP65	IP20
connection	see above	see above

setting options IV400720 / IV850700

DIP-switch	on	off
1	output 2 = antivalent	output 2 = alarm
2	adjustment aid on	adjustment aid off
3	time delay on	time delay off
4	on-delay 0 ... 1sec (potentiometer)	off-delay 0 ... 1sec (potentiometer)
5	high hysteresis / high setting control *	small hysteresis / small setting control *
6	3-wire sensors	2-wire sensors

* only for inductive high temperature sensors with 2-wire system

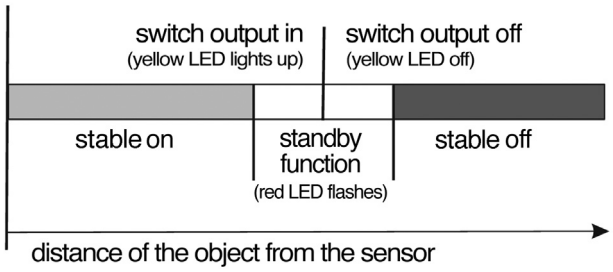




LED 1 green: operating voltage
LED 2 yellow: object identified
LED 3 red: lights up: sensor is not connected
flashes: standby function range
lights up + yellow LED flashes: short circuit at the output

LED 1 green/yellow: operating voltage/object
LED 2 red: lights up: sensor is not connected
flashes: standby function range
flashes + yellow LED flashes:
short circuit at the output

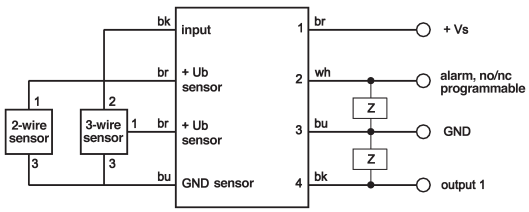
adjustment aid:
If the adjustment aid is activated (DIP switch 2 'on'), the red LED flashes in order to identify the standby function range. As such, an object that is to be recorded must be located sufficiently near to the sensor so that the yellow LED lights up and the red LED does not flash. Objects that don't have to be recorded must be sufficiently far away from the sensor so that both LEDs do not light up. If the red LED flashes whilst the sensor is running, then it has to be re-adjusted.



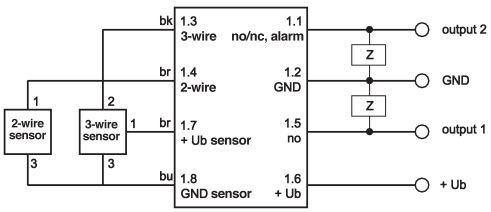
alarm output:
The alarm output is activated by switching DIP switch 1 to the 'on' setting. If no sensor is connected, or if the line to the sensor is disconnected, the alarm output will switch on. In addition, the red LED will light up. The alarm output also switches on if there is a short circuit on the switch output of the amplifier. In this case, the red LED lights up and the yellow LED flashes.

hysteresis setting:
The hysteresis can be set in two stages in order to adjust the size of the connected sensors. In the case of large sensors (design 30 and 50), it is recommended that a 'small' setting is selected. In the case of small sensors (design 18), the 'large' setting should be used.
The sensors featured in this catalog (which are designed for use with an external amplifier) are two wire sensors. The electrical connection between the sensor and amplifier takes place via two wires: brown (PIN 1 of the M12-connector) and blue (PIN 3 of the M12-connector). With the IV40 and IV85 amplifiers, there is the option of selecting between 2-wire and 3-wire sensors. This is based on the fact that future devices are planned which additionally require a third connection wire. For example, in order to be able to set higher temperatures.

description of the switching procedures IV400720



IV850700

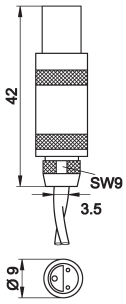


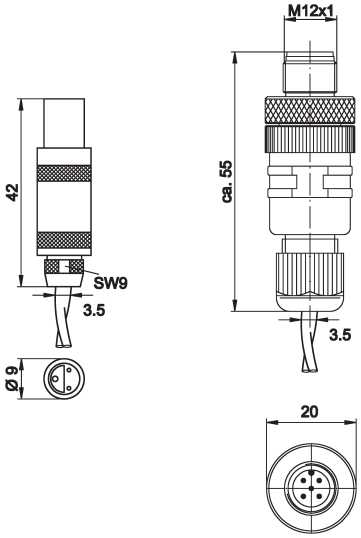
Only one sensor can be connected!

inductive sensors

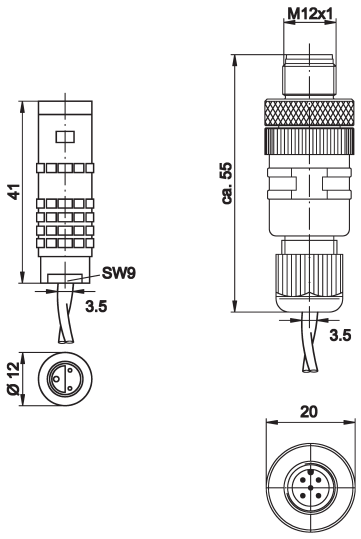
2350 high temperature sensors

connection	sensor: lemosa, straight, shielded -	sensor: lemosa, straight, shielded amplifier: M12-connector
outer jacket material	teflon	teflon
version	connection to amplifier IV850700	connection to amplifier IV120450 / IV400720
article-no.	VK206941	VK206F41
length	2m	2m
article-no.	VK506941	VK506F41
length	5m	5m
article-no.	VKA06941	VKA06F41
length	10m	10m



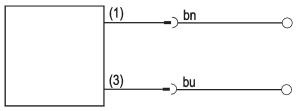


connection	-	sensor: lemosa, straight, shielded amplifier: M12-connector
outer jacket material	-	teflon
version	-	connection to amplifier IV120450 / IV400720
article-no.	-	VKB0C590
length	-	20m

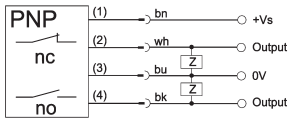


connection

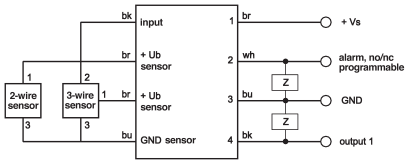
connector devices 2-wire (sensors)



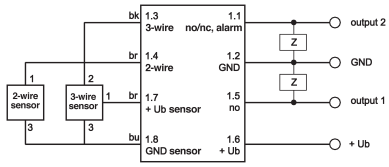
amplifier **IV120450**



amplifier **IV400720**



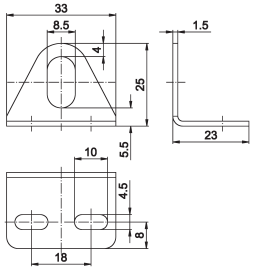
amplifier **IV850700**



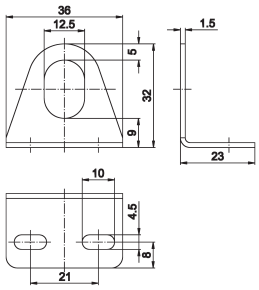
wire colors: bn = brown (1), wh = white (2), bu = blue (3), bk = black (4)

mounting accessories

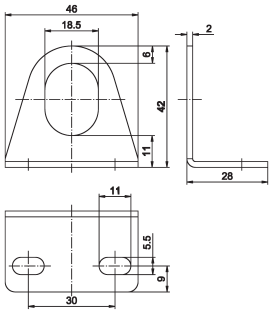
AY000098 for M8x1, stainless steel



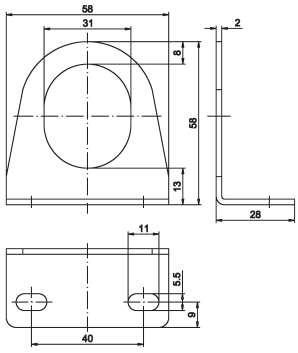
AY000099 for M12x1, stainless steel



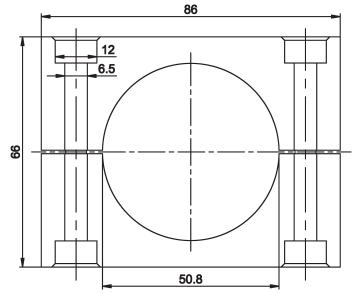
AY000100 for M18x1, stainless steel



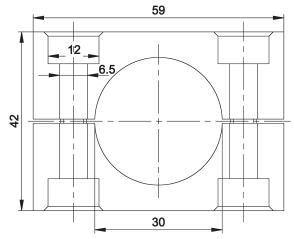
AY000101 for M30x1.5, stainless steel



AY000102 for M50x1.5, aluminium



AY000104 for M30x1.5, aluminium



In the case of continuous operation in ambient temperatures over 210° (as well as with frequent temperature changes), it is possible for the service life of the sensors to shorten due to technical reasons.

This data sheet only contains the available standard variants. For other output / connection variants, we kindly ask that you contact us. We are happy to supply the right cable socket for the plug equipment. You will find a list in the 'accessories' section of the catalog under ***ipf-SENSORFLEX®***" or search our website for 'VK'.

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

ipf electronic gmbh
Kalver Straße 25 – 27
58515 Lüdenscheid – Germany
Fon +49 (0) 2351 / 9365-0
Fax +49 (0) 2351 / 936519
www.ipf-electronic.com
info@ipf-electronic.com

Subject to alteration!
Version: July 2012

notes

export division
Kalver Straße 25 – 27
58515 Lüdenscheid
Germany

Fon +49 (0) 2351 / 98597-0
Fax +49 (0) 2351 / 98597-29