design	**Ø38 x 118mm**	
temperature	operating range	**-40 to +300°C**

- ✓ **temperature range from -40 to +300°C**
- ✓ **M12-connection socket for PT100 resistance thermometer**
- ✓ **analog output with adjustable start and end point**
- ✓ **turn-on and turn-off delay separately adjustable**
- ✓ **test function – simulation of the adjusted switching functions without connected resistant thermometer**
- ✓ **peak hold function for the display**
- ✓ **self monitoring function: overload, breakage and sensor function**

intelligent temperature sensor, membrane keyboard, USB opto interface

description

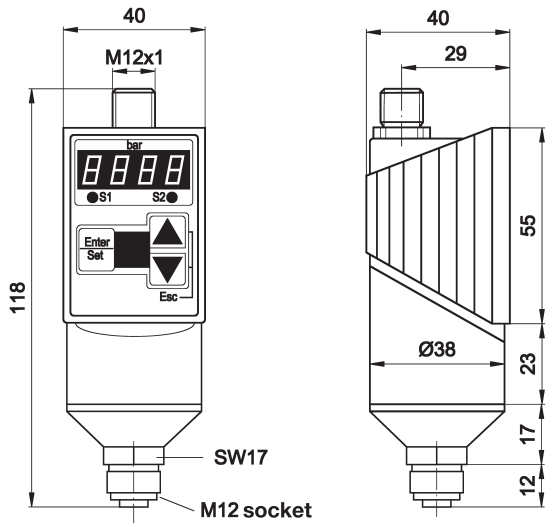
The **YT35** temperature sensor from ***ipf electronic*** offers a high level of operator comfort.
The device has 2 outputs. Although output 1 relates to a freely-programmable switching output, for output 2 a selection can be made between an analog output, a switching output or an alarm output.
Devices with an 8-pin connection have both 2 switching outputs and an analog output available.
Among other things, the switch points, release positions, output logic and time delay can be programmed via the membrane keyboard.
The sensor has an M12-connection for a PT100-resistance thermometer and can be used up to a measurement temperature of 300°C. The PT100 and the screw-in sleeves that fit it can be found on page 4 of this data sheet.
A quick exchange is enabled thanks to the screw-in sleeves, because the resistance thermometer is separated from the process by the mounting connection. The temperature measurement of the PT100 takes place on the first two centimeters of the test prod.
The sensor has an optical interface with which, in addition, all adjustment parameters can be adjusted and changed via a PC or notebook.
For dynamic measurements, the display and the analog output are equipped with an adjustable damping function. Following installation, the sensor body can be rotated by 350° and the sensor display can be rotated by 180° by means of the software.
The test function offers a simple and quick possibility to check the function of the device and/or the analysis which have been switched on. In connection with this, each temperature value of the temperature range can be "simulated" through the operating buttons or by operating the PC. The device behaves as if a temperature sensor were connected.

application examples

- ▶ temperature monitoring in furnaces and machines for fluids and air

1600 temperature sensors

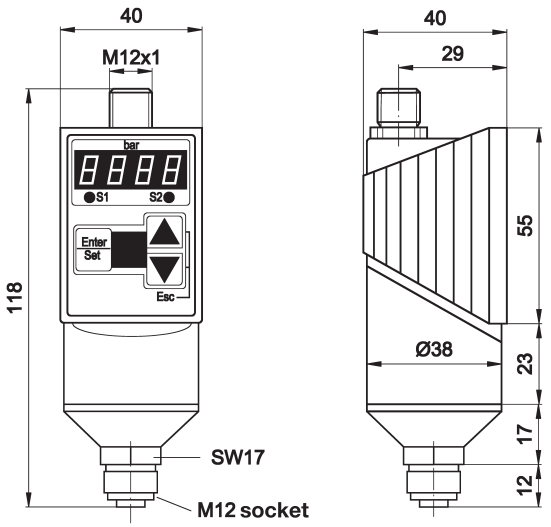
article-no.	**YT353100**
temperature (medium)	**-40 ... +300°C**
output	**0/4 ... 20mA, 20 ... 0/4mA / 2 x pnp, no/nc**
connection	**M12-connector, 4-pin**



TECHNICAL DATA

temperature (medium)	-40 ... +300°C
measuring system	resistance thermometer PT100 (2-,3-, or 4-wire)
output	0/4 ... 20mA, 20 ... 0/4mA / 2 x pnp no / nc
operating voltage	12 ... 32V DC
output current (max. load)	1A
current consumption (w/o load)	< 60mA
voltage drop (max. load)	< 2.0V DC
on/off delay	0 ... 20sec
adjustment range	1 ... 100% of the accumulated value switch-point 0 ... 99% of the accumulated value release position
sampling frequency	max. 125Hz
repeat accuracy	< ±0,1% of the accumulated value
analog output	
burden	max. RL Ω = (Ub-8V)/20mA
error recognition	in case of line break, overload and measurement error
rise time	5msec (10 ... 90% of the accumulated value)
damping adjustable	0 ... 20sec
linearity deviation	max. ±0.25% of T_n
display (LED)	4 x 7 segment LED
display (damping)	0 ... 20sec, adjustable
display (signal)	2 x red LED
short-circuit protection	+
reverse polarity protection	+
housing material	PA6.6, polyester
design	Ø38x118mm
operating temperature	-20 ... +80°C
temperature drift	< ±0.2% / 10K, (-10 ... +70°C)
system of protecion (EN 60529)	IP65
connection	M12-connector, 4-pin
connection accessories	e.g. **VK205325**, 2m, straight, 4-wire, PUR
connection (sensing element)	M12-cable socket, 4-pin, with rotatable coupling ring
interface	opto-adaptor to USB + software **AD000011**
mounting accessories	mounting clip **AY000060**

article-no.	**YT353120**
temperature (medium)	**-40 ... +300°C**
output	**0/4 ... 20mA, 20 ... 0/4mA / 2 x pnp, no/nc**
connection	**M12-connector, 8-pin**



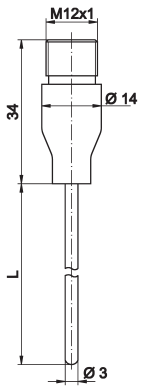
TECHNICAL DATA

temperature (medium)	-40 ... +300°C
measuring system	resistance thermometer PT100 (2-,3-, or 4-wire)
output	0/4 ... 20mA, 20 ... 0/4mA / 2 x pnp no / nc
operating voltage	12 ... 32V DC
output current (max. load)	1A
current consumption (w/o load)	< 60mA
voltage drop (max. load)	< 2.0V DC
delay time	0 ... 20sec
adjustment range	1 ... 100% of the accumulated value switch-point 0 ... 99% of the accumulated value release position
sampling frequency	max. 125Hz
repeat accuracy	< ±0.1% of the accumulated value
analog output	
burden	max. RL Ω = (Ub-8V)/20mA
error recognition	in case of line break, overload and measurement error
rise time	5msec (10 ... 90% of the accumulated value)
damping adjustable	0 ... 20sec
linearity deviation	max. ±0.25% of T_n
display (LED)	4 x 7 segment LED
display (damping)	0 ... 20sec, adjustable
display (signal)	2 x red LED
short-circuit protection	+
reverse polarity protection	+
housing material	PA6.6, polyester
design	Ø38x118mm
operating temperature	-20 ... +80°C
temperature drift	< ±0.2% / 10K, (-10 ... +70°C)
system of protection (EN 60529)	IP65
connection	M12-connector, 8-pin
connection accessories	e.g. **VK205A25**, 2m, straight, 8-wire, PUR
connection (sensing element)	M12-cable socket, 4-pin, with rotatable coupling ring
interface	opto-adaptor to USB + software **AD000011**
mounting accessories	mounting clip **AY000060**

1600 temperature sensors

resistance thermometer PT100

article-no.	YT036020	YT036021	YT036022	YT036023	YT036024	YT036025
length [L]	100mm	150mm	250mm	350mm	500mm	1000mm

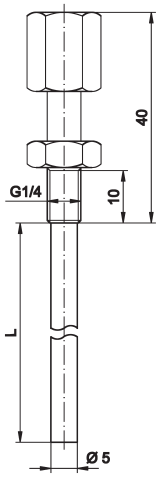


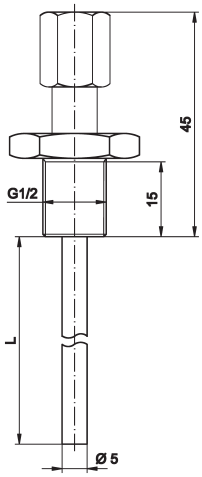
TECHNICAL DATA

temperature (medium)	-30 ... +350°C
operating voltage	connection to **YT353100** or **YT353120**
resistance value	100Ω at 0°C to IEC 751 class A
measuring accuracy	±0.06Ω at 0°C ±0.15°C
hysteresis	depending on medium
isolation resistance	100Ω at 100Vcc
assembly	close-packed magnesium oxide isolation
bending radius	min. 9mm
outer diameter	Ø3mm
outer jacket material	stainless steel 1.4401

screw-in sleeve

article-no.	AT000001	AT000005	AT000002	AT000003
process connections	G¼"	G¼"	G½"	G½"
length [L]	100mm	900mm	100mm	40mm



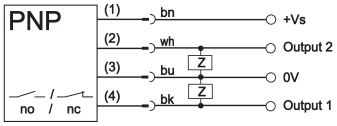


TECHNICAL DATA

temperature (medium)	-40 ... +300°C
mounting connection	G¼ or G½" to DIN ISO 228
outer diameter	Ø5mm
material	stainless steel 1.4401
material (ring socket)	fixing (PT100) with a stainless steel tapered ring
pressure (max.)	100bar at +350°C

connection

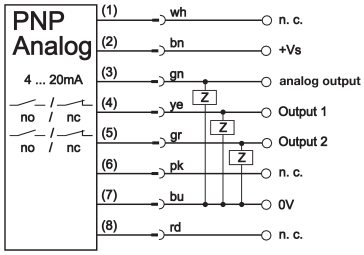
4-pin



output 2 selectable between switching, analog and alarm output

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

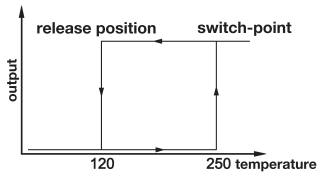
8-pin



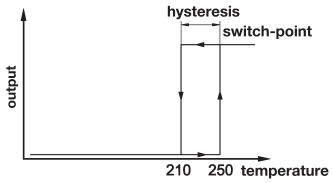
wire colors: wh = white (1), bn = brown (2), gn = green (3), ye = yellow (4), gy = grey (5), pk = pink, bu =blue (7), rd = red (8)
n.c. = not connected

programmable switching functions (example)

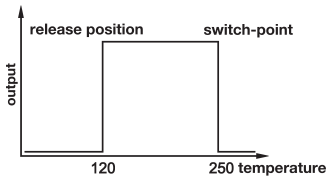
switch-point with release position



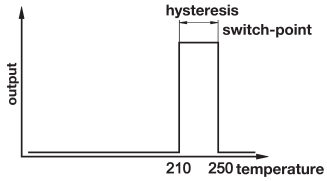
switch-point with hysteresis



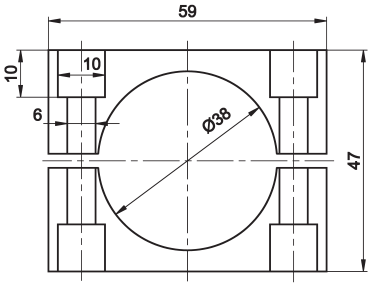
window function with release position



window function with hysteresis



mounting clip AY000060



ACCESSORIES

article-no.	description	notes
AD000011	optical interface	connection USB, software, 1.5m cabel
AY000060	mounting clip	
AT000004	adapter for piping anchorage YT35	hose clip necessary

comfortable software
From the first moment on, all functions can be seen straight away and are quickly changeable.

graphical interface
The software user interface is graphically shown very well; this makes it possible to operate easily.

test function
The test function offers a simple and quick possibility to check the function of the device and/or the analysis which have been switched on. In connection with this, each incidence of temperature can be simulated by the operating buttons or the PC software.

opto USB interface
Even during the running operation, you can communicate with the temperature sensor via the opto USB interface (galvanically separated).

self-critical
The temperature sensor's automatic self-test indicates the following functions: Overshooting or undershooting within the measuring range, a short-circuit – output 1 / output 2, a temperature sensor defect, an internal fault, as well as an open analog output. The onward transmission of the faults to the control can take place via the alarm or analog output.

very fast
Quick detection of the peak temperatures is possible within 2msec.

tamper proof
The keypad lock can be adjusted via the membrane keyboard or as a hard lock. The hardlock can only be operated via the software.

data logging function
The software offers the opportunity to write measured values in an Excel table. Data logging can be carried out in a way which is controlled either by time or measurement.

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection functions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets 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.