Honsberg Instruments GmbH
+49 (0) 2191 - 9672 - 0 ● Fax - 40
nsberg.com ● info@honsberg.com

nformation

tch and

ch

The following output

Flow		Temperature	
Analog	Switching output	Analog	Switching output
●	●		
●	●		
●			
			●

switching outputs ull" transistor provides
d NPN inputs can be minimum
maximum sw a frequen

data

	alorimetric sure
s	crimp se
ection	co
ering ranges	6
r water)	8 5..5 l/m
	10 ..10 l/min
	() available on request
Me	±3)
	±1)
	4
	10 er ation of operating voltage
	n 5 an average flow speed of
	ap -2 s
	P
	m bar x. flow
	0. °C
	2 0 °C
	2 80 °C
	v pacer 14 C, 30 minutes max.
	04 (others ailable on request)
	S, PA6.6, 1 05
medium-contact	
Power consumption	ma
Supply voltage	2 %
Analog output	4 ad 5
	or ad
Electrical connection	fo co
Current consumption	
Switching output	ut
	ve
	d
	p
	=
	by a

Characteristics

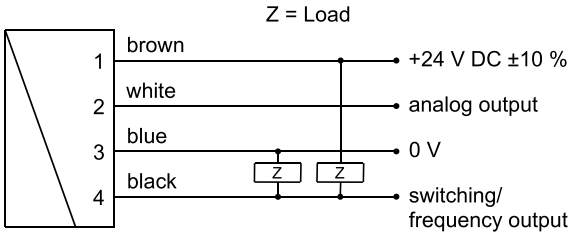
The HFK30-FIN flow s rs fl
combines the measure nd
The integrated trans an
0..10 V) and one sw put.
limit switch for mon ima
tput.
switching ou sign
be use a F
the swi g ou gnal
outlet; the LED oun
The sensor is figured i
done with th the optionally
configurator (nterface for PC). A selectable parameter can be
modified on evice the aid of the magnet clip provided. In
this case, t urren value is saved as the parameter
value. Exa s of s are the switching value or the
metering ge er s steel electronics housing
is rotata , so the cable outlet after
installati .

The convert rs: the flow
spee of th s can be
a gned.

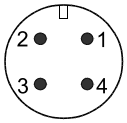
Honsberg Instruments GmbH
Tenter Weg 2-8 ● 42897 Remscheid ● Germany
Fon +49 (0) 2191 - 9672 - 0 ● Fax - 40
www.honsberg.com ● info@honsberg.com

Ingress protection	IP 67
Weight	approx. 0.2 kg
Conformity	CE, EHEDG

Wiring

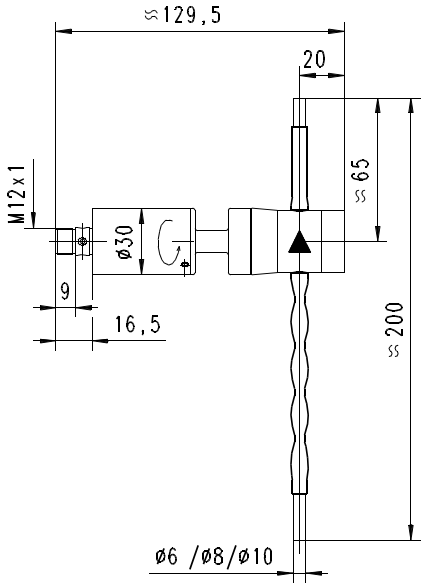


Connection example: PNP NPN



Dimensions

A spacer between the electronics head and the medium-contact measurement tube provides thermal decoupling between the two units. The media temperature may be raised for 45 min. to 130 °C.



Handling and operation

Installation

In order to ensure the sensor's maximum insensitivity to interference, the flow should run from bottom to top (best degassing even at the slowest flow speed). Standard crimp connectors, hoses with crush protection, or the crimp connectors provided by HONSBERG can be used for the connection.

The insulation hoses offer the best possible insulation against the surroundings, and must therefore not be removed.

Programming

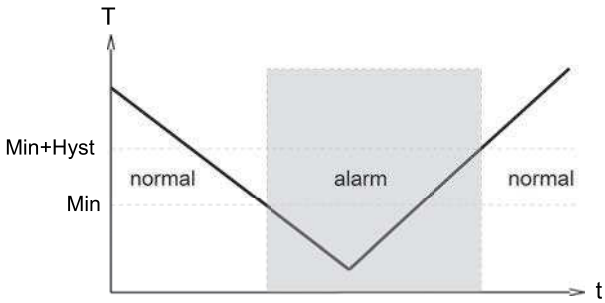
The electronics contain a magnetic contact, with the aid of which different parameters can be programmed. Programming takes place when a magnet clip is applied for a period between 0.5 and 2 seconds to the marking located on the label. If the contact time is longer or shorter than this, no programming takes place (protection against external magnetic fields).

After the programming ("teaching"), the clip can either be left on the device, or removed to protect data.
The device has a yellow LED which flashes during the programming pulse. During operation, the LED serves as a status display for the switching output. In order to avoid the need to transit to an undesired operating status during "teaching", the device can be provided ex-works with a "teach-offset". The "teach-offset" value is added to the currently measured value before saving (or is subtracted if a negative value is entered).

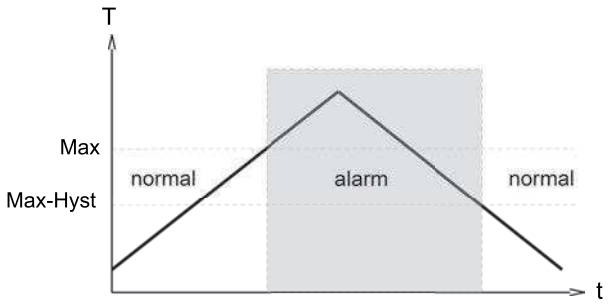
Example: The switching value is to be set to 70 % of the metering range, because at this flow rate a critical process status is to be notified. However, only 50% can be achieved without danger. In this case, the device would be ordered with a "teach-offset" of +20 %. At 50 % in the process, a switching value of 70 % would then be stored during "teaching".

Normally, programming is used to set the limit switch. However, if desired, other parameters such as the end value of the analog or frequency output may also be set.

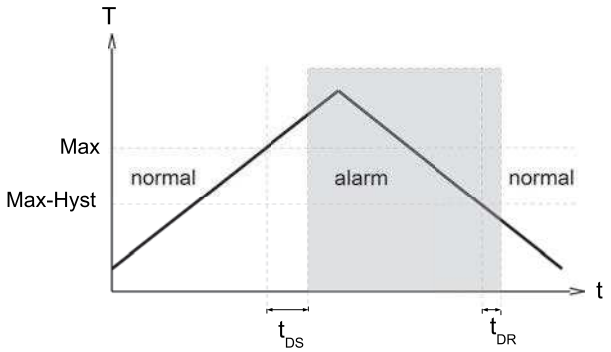
The limit switch can be used to monitor minimal or maximal.
With a minimum-switch, falling below the limit value causes a switchover to the alarm state. Return to the normal state occurs when the limit value plus the set hysteresis is once more exceeded.



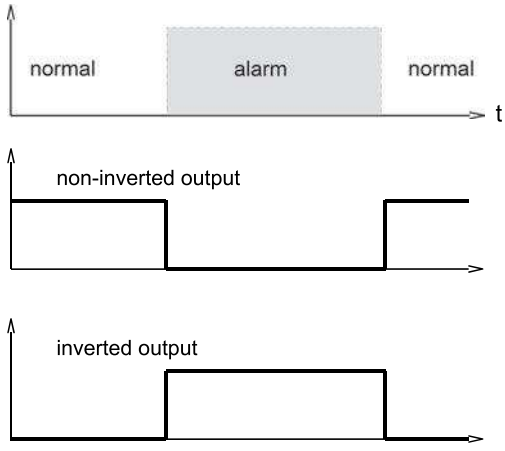
With a maximum-switch, exceeding the limit value causes a switchover to the alarm state. Return to the normal state occurs when the measured value once more falls below the limit value minus the set hysteresis.



A switchover delay time (t_{DS}) can be applied to the switchover to the alarm state. Equally, one switch-back delay time (t_{DR}) of several can be applied to switching back to the normal state.



In the normal state the integrated LED is on, in the alarm state it is off, and this corresponds to its status when there is no supply voltage.
In the non-inverted (standard) version, while in the normal state the switching output is at the level of the supply voltage; in the alarm state it is at 0 V, so that a wire break would also display as an alarm state at the signal receiver. Optionally, an inverted switching output can also be provided, i.e. in the normal state the output is at 0 V, and in the alarm state it is at the level of the supply voltage.



A Power-On delay function (ordered as a separate option) makes it possible to maintain the switching output in the normal state for a defined period after application of the supply voltage.

Ordering code

	1.		2.	3.	4.	5.	6.	7.	8.
HFK30-FIN		-		**K1**					

9.	10.
	H

For combination option, see table "Technical data".
❍=Option

1.	**Tubing diameter**	
	006	6 mm
	008	8 mm
	010	10 mm
2.	**Metering range**	
	02000	(0.001) 0.01..2 l/min
	05000	0.025..5 l/min
	10000	0.05..10 l/min
3.	**Pipework material**	
	K1	stainless steel 1.4404
4.	**Analog output**	
	I	current output 4..20 mA
	U	voltage output 0..10 V
5.	**Measurement parameter to analog output**	
	F	flow rate to analog output
	T	temperature to analog output
6.	**Switching output**	
	T	transistor output "push-pull"
	M ❍	NPN (open collector)
7.	**Measurement parameter to switching output**	
	F	flow to switching output
	T	temperature to switching output
8.	**Functioning of the switching output**	
	L	minimum-switch
	H	maximum-switch
	R	frequency output
9.	**Switching signal**	
	O	standard
	I	inverted
10.	**Spacer**	
	H	CIP- / SIP version, 140 °C, 30 minutes max.

Options

Special measuring range for flow:
Metering range start value ____ ml/min

Metering range end value ____ ml/min

Special measuring range for temperature:
Maximum 100 °C (standard = 70 °C) ____ °C

Minimum -20 °C (standard = 0 °C) ____ °C

Special range for analog output:
<= Metering range ____ ml/min
(Standard = Metering range) °C

Special range for frequency output:
<= Metering range ____ ml/min
(Standard = Metering range) °C

End frequency (max. 2000 Hz) ____ Hz

Switching delay period (0.0..99.9 s) ____ s
(from Normal to Alarm)
Switch-back delay period (0.0..99.9 s) ____ s
(from Alarm to Normal)
Power-On delay ____ s
(After connecting the supply, time during which the switching output is not activated)

Switching output fixed ____ ml/min °C

Special hysteresis ____ %
(standard = 2 % EW)

Teach-offset ____ %
(in percent of the metering range)
Standard = 0 %

If the field is not completed, the standard setting is selected automatically.

Accessories

- ECI-1 device configurator (USB programming adapter)
- Process adapter
- Cable/round plug connector (KH...)
  see additional information “Accessories”
- External display OMNI-TA or OMNI Remote