

Flowmeter

TDH...-15.../PPO,

TDI...-15.../PPO



OVERVIEW

Operation

- Turbine flowmeter

Application

- Medical engineering
- Pharmaceutical industry
- Chemical industry
- Research & Development

Features

- Universal orientation
- Specially designed guide vanes ensure a uniform flow onto the rotor
- High quality sapphire bearings
- High measuring accuracy
- Pulse output
- Device body of plastic (standard)
- **Options:**
Device body of brass

Installation information

- The operating instructions for TDH...-15.../PPO, TDI...-15.../PPO must be observed!
- **Download: www.meister-flow.com**

OPERATING DATA

Sensor	
TDH...	Hall sensor
TDI...	Inductive proximity switch
Nominal diameter	DN 15
Nominal pressure	PN 10
Pressure drop	see diagram on page 5
Media temperature	0 - 85 °C
Ambient temperature	0 - 75 °C
Measuring accuracy	
TDH...	± 0,4 l/min
TDI...	± 0,2 l/min
Repeatability	
TDH...	± 0,1 l/min
TDI...	± 0,05 l/min
Start of signal output	0,3 l/min
Maximum size of solids in medium	< 0,5 mm

MATERIALS

Wetted parts	
Measuring tube:	
Standard	PPO Noryl GFN3
Optional	Brass
Sensor:	
PPO Noryl GFN3	
Turbine chamber / impeller:	
PEI ULTEM	
O-Ring / gasket:	
NBR	
Bearing / Axle:	
Arcap Axle AP1D with hard metal pins in sapphire bearings	
Bearing support:	
Arcap AP1D	
Impeller assembly:	
TDH...	Hard ferrite magnets
TDI...	Stainless steel pins
Strainer (optional):	
POM / Stainless steel cone-shape, mesh size 0,5 mm	
T_{max} (continuous operation)	60 °C
T_{max} (max. 1 h)	85 °C
Temperature sensor (optional):	
Brass or 1.4571	
Non-wetted parts	
Union nut, sensor:	
PA 6	

MEASURING RANGES

Type	Measuring range for H ₂ O at 20 °C ⁽¹⁾	
	l/min	
TDH...-15.../PPO	2 – 40 ⁽²⁾	
TDI...-15.../PPO	2 – 40 ⁽²⁾	

⁽¹⁾ The measurement of fluids with higher viscosities is possible with deviation of stated values.

⁽²⁾ At continuous operation max. 20 l/min

VERSIONS

Versions with connection cable

Type	Measured value acquisition Output	
TDHK-15l/PPO	Hall sensor	Pulse output
TDIK-15l/PPO	Inductive proximity switch	Pulse output

1,5 m PVC cable, shielded (TDHK)

2,0 m PVC cable, shielded (TDIK)

$T_{max} = 70$ °C

Versions with connector

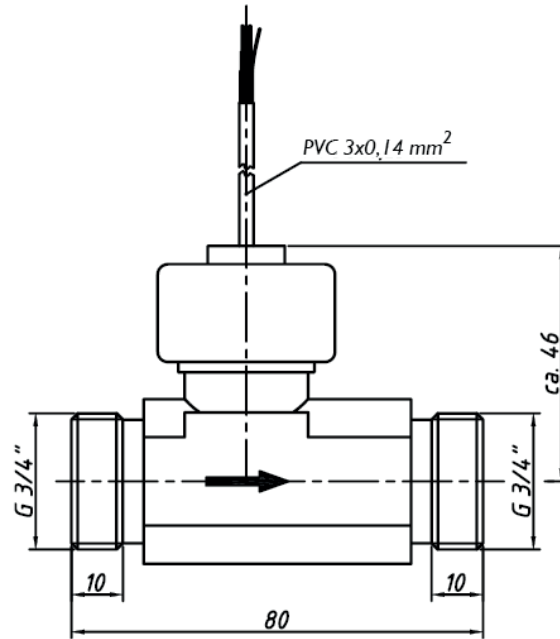
Type	Measured value acquisition Output	
TDHS-15l/PPO	Hall sensor	Pulse output
TDIS-15l/PPO	Inductive proximity switch	Pulse output

4-Pin-Connector M12x1

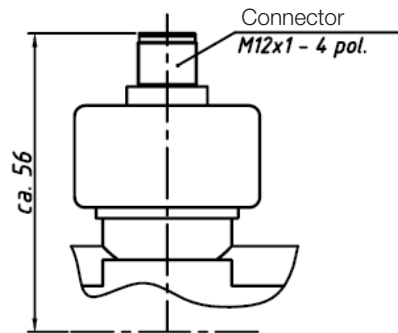
In addition to the standard version (.../PPO), an optional brass version (.../MS) is available.

TECHNICAL DRAWING

TDHK-15I/PPO / TDIK-15I/PPO



TDHS-15I/PPO / TDIS-15I/PPO



SUMMARY OF TYPES

Type	Sensor	Output	Technical data		
			G ⁽³⁾	DN	PN
TDHK-15I/PPO	Hall sensor	Pulse output	3/4"	15	10
TDIK-15I/PPO	Inductive proximity switch	Pulse output	3/4"	15	10
TDHS-15I/PPO	Hall sensor	Pulse output	3/4"	15	10
TDIS-15I/PPO	Inductive proximity switch	Pulse output	3/4"	15	10

⁽³⁾ External thread with union nuts and gaskets

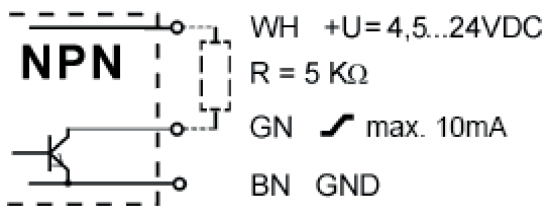
ELECTRICAL DATA

	TDH...	TDI...
Power supply	4,5 - 24 V DC	10 - 30 V DC
Start of signal output	0,3 l/min	0,3 l/min
Pulse rate / K-Factor	855 Pulses/l	1795 Pulses/l
Resolution	1,2 ml/Pulse	0,6 ml/Pulse
Signal form	NPN open collector	PNP or NPN open collector
Signal current max.	10 mA	50 mA
Pull-up/down resistor	5 Ω ⁽⁴⁾	5 Ω ⁽⁴⁾
Connection diagram	A1, A2 see below	B1, B2, C1, C2 see below

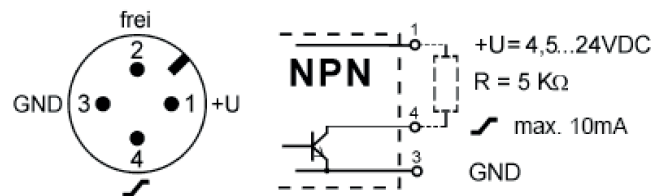
⁽⁴⁾ Recommended

CONNECTION DIAGRAM

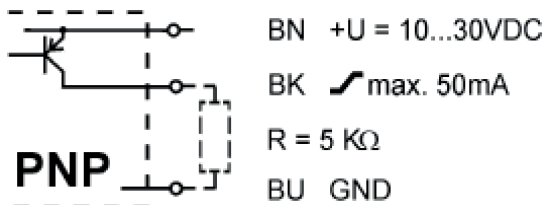
A1: TDHK-15I/PPO (Cable)



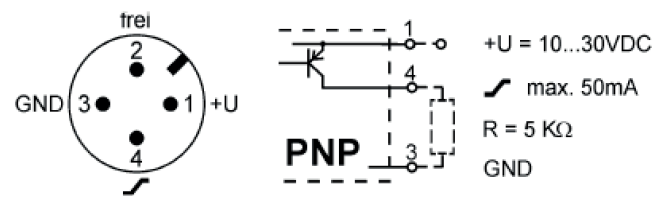
A2: TDHS-15I/PPO (Cable)



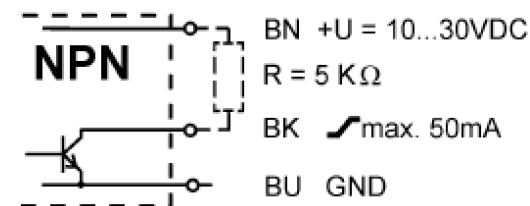
B1: TDIK-15I/PPO (PNP, Cable)



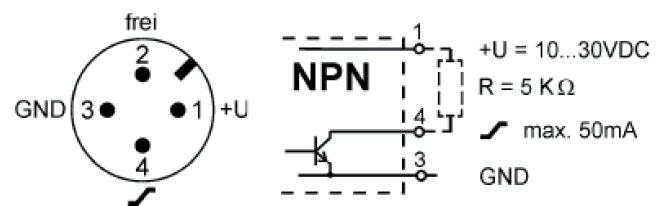
B2: TDIS-15I/PPO (PNP, Cable)



C1: TDIK-15I/PPO (NPN, Cable)



C2: TDIS-15I/PPO (NPN, Cable)



Color code

BN	brown	GN	green
BK	black	WH	white
BU	blue	R	Resistor

ELECTRICAL CONNECTION

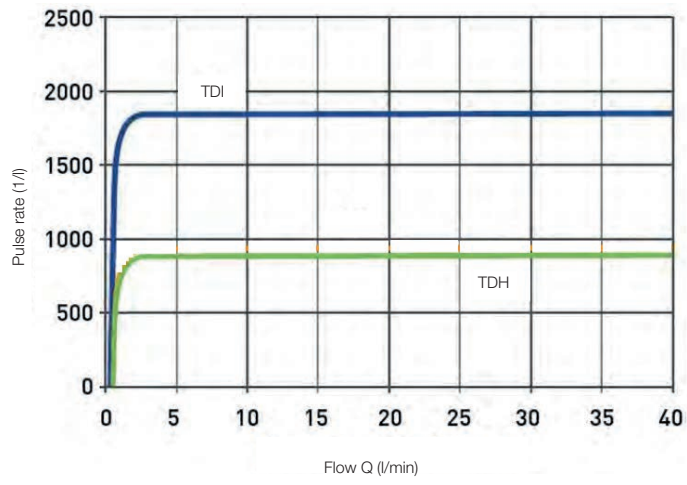
- Connector M12x1 (TDHS / TDIS)
- 1,5 m PVC cable, shielded (TDHK)
- 2,0 m PVC cable, shielded (TDIK)

Ingress Protection

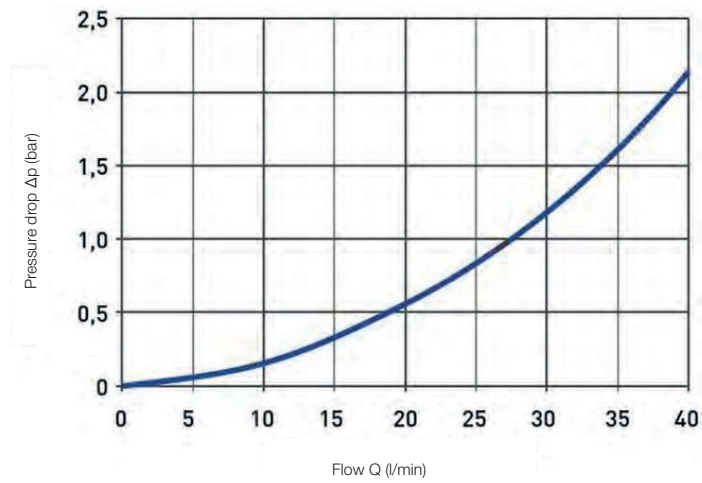
IP54

DIAGRAMS

Characteristic curve



Pressure drop





TDH...-15.../PPO, TDI...-15.../PPO 6 0001 12-15 E M

MASTERPIECES MADE IN GERMANY

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