

**PPV-100 POSITIVE DISPLACEMENT FLOW METERS
WITH A FEATURE OF DATA/SIGNAL TRANSFER
TO THE AUTOMATION SYSTEM UPPER LEVEL**

**OEM PRODUCTION FEATURE
UNDER THE CUSTOMER'S
TRADE MARK IS AVAILABLE**

PPV screw type liquid flow meters are designed for nonaggressive oil product volumetric metering in the stationary facilities and at the portable loading/transfer skids as well upon condition that there is no direct sunlight and precipitation breakthrough.

Thanks to the intelligent DI-O-5 Induction RPM sensor with a processor, which implements data pick-up, processing and transmission through the pulse or digital (RS-485) outputs, the flow meter is able to communicate to the personal computer without any secondary devices or KUP-30, KUP-40 type universally-programmable controllers.

KUP-30 controller, characterized by LED indication, metal casing, the capability of installation in the explosion hazardous zone, output toward to PC, is designed to be operated at (-40÷+50)°C ambient temperature range and upon condition of relative humidity maximum value: 98% at 35°C.

KUP-40 controller, which is provided with LED indication, metal casing, the feature of external devices (including measuring skid cut-off valve) control, output toward to PC, can be installed in the explosion hazardous zone.

There should be installed a 0.10 mm fineness strainer at no more than 3000 mm distance upstream the flow meter. We recommend to purchase FZHU type liquid strainer as a complete unit in relation to the end purposed equipment.

PPV SCREW TYPE FLOW METER TECHNICAL CHARACTERISTICS

Parameter	Value
Type of flow meter	screw type, operation principle: in a positive displacement manner
Nominal inside diameter (DN), mm	100
Operating pressure, MPa	1.6
Communication interface	RS-485
Flow rate range, m ³ /h	18...180
Operation temperature, °C	-40...+50



**SZH-PPV-100-1.6 DI-O-5
Screw type liquid flow meter**



**SZH-PPV-100-1.6 SU- DI-O-5
Screw type liquid flow meter
(SU - electronic signal counter device)**



**SZH-PPV-100-1.6-
DI-O-5-KUP-30 (220V)**



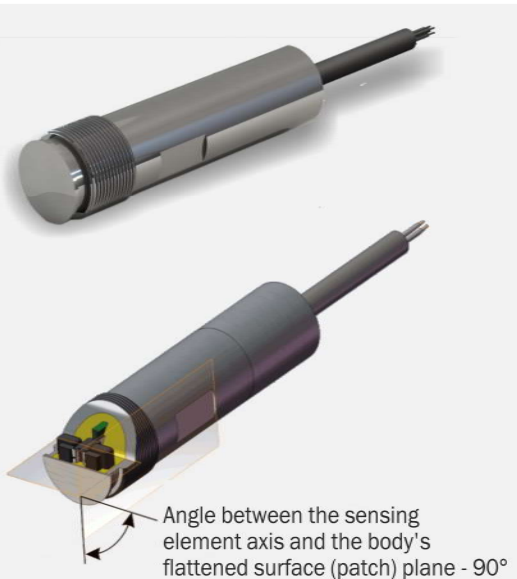
**SZH-PPV-100-1.6-
SU -DI-O-5-KUP-30 (220V)**

DI-O-5 INDUCTION RPM SENSOR

DI-O-5 Induction RPM sensor is designed for identifying the moving metal elements with the alternating empty spaces (such as gear teeth) within its operating range, obtained information conversion into electrical impulses with the further transfer of those via digital communication line, as well as data recording into the internal non-volatile memory.

Operating principle: There are provided two integrated sensing elements in device configuration, by means of which while recording the pulse sequence from two multiphase sources, such as shift engaged gears, the sensor is able to determine the direction of movement (forward/reverse). Eight adjustment coefficients are aimed to provide non-linear output signal behaviour (pattern of change) with regard to the different frequencies. The integrated microcontroller and non-volatile memory is intended for recording and storing the data concerning the number of counted pulses (Non-Resettable Totalizer), the single-time counted pulse number (Resettable Totalizer), and various setup coefficients as well. The embedded temperature sensor monitors the internal thermal conditions and registers any deviations.

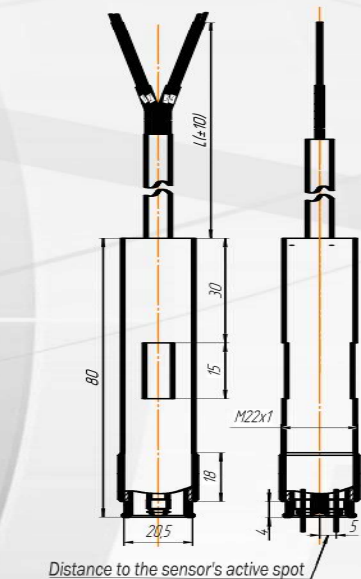
Purposed equipment (a complete part of which this sensor is designed to constitute): signal pick-up devices, turbine type flow meters.



Overall and connecting dimensions

DI-O-5 sensors main technical parameters

Parameter name	Value
Operating temperature, °C	-40...+50
Explosion-proof mark	1ExdbIIIBT5Gb
Ingress protection rating	IP67
Sensor body material	Stainless steel, Chrome-plated brass
Sensor's body overall dimensions, mm	M22×80
Device weight, kg, no more than	0.2
Supply voltage, V	7...12 DC
Consumption current, A, max	0.03
Power consumption, W, no more than	0.4
Type of communication interface	RS 485
Communications protocol	MODBUS RTU (slave)



Functional block diagram

