

VPFLOWSCOPE IN-LINE



VPFLOWSCOPE IN-LINE

The VPFlowScope In-line measures flow, pressure and temperature simultaneously. It is the perfect solution for compressed air and technical gas flow measurement. You can choose between the 16 bar and 35 bar version, which is designed for high pressure applications. The VPFlowScope In-line is also the perfect solution for technical gases, such as nitrogen, carbon dioxide, argon and mixed gases.

Thanks to the patented Thermabridge[™] technology, the VPFlowScope In-line can perform bi-directional flow measurements, which is essential for correct cost allocation in large networks.

Because of the modular design, you can choose from various options: the basic model comes without display, the most advanced model has a built-in display with integrated two million point data logger.

Benefits

- > Three-in-one sensor design: flow, pressure and temperature
- > Built-in totalizer
- > Standard RS485, 4 ... 20 mA and pulse output
- > Integrated bi-directional option
- > Reversible display text

Applications

- > Sub-metering of compressed air
- > Leakage management
- > Energy monitoring
- > Technical gas flow monitoring
- > Cost allocation
- > Condition monitoring of pneumatic equipment
- > Technical gas submetering (N₂, He, Ar, CO₂, mixed gases)
- > 35 bar | 500 psi high pressure compressed air

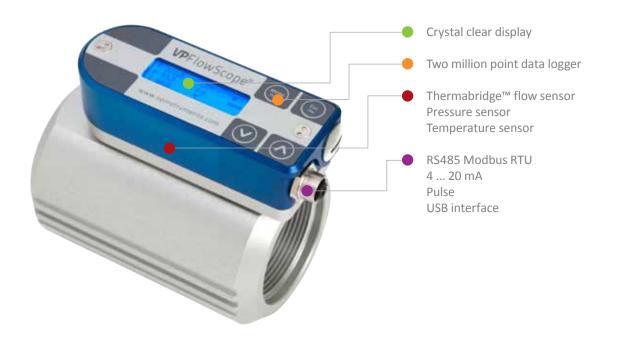
"With the VPFlowScope In-line, we were able to check the actual consumption of air knives and nozzles. In this case, the difference between our old open blow pipes and engineered venturi nozzles was tested with a VPFlowScope In-line. We could identify 7.5 K Euro (8 K USD) per annum cost savings. The ROI on the venturi nozzles was a couple of months."

Display options

The VPFlowScope In-line comes in three sizes; 0.5 inch (VPS.R080.M050), 1 inch (VPS.R250.M100) and 2 inch (VPS.R01K.M200). In these three sizes, you can choose three display options.

DISPLAY	MODEL	RS485	4 20 MA/ PULSE	3 LINE DISPLAY	2M POINT DATA LOGGER	APPLICATIONS
No display	DO	Х	Х			BMS, Remote monitoring, OEM. Order D8 model for VPFlowTerminal
Display	D10	Х	Х	х		BMS, Point of use measurement
Display with data logger	D11	х	Х	х	Х	Auditing, machine testing, portable use

The display provides real time information that can be recorded with the optional data logger. The display text is reversible and shows all information on three lines, which are fully configurable. You can choose from SI and IM display units. The data logger offers two million data points, which makes recording as easy as taking pictures. This is enough storage to measure all three parameters once per second for more than a week.



Tubing kits

Tubing kits are offered to integrate VPFlowScope In-line sensors easier and more accurate. The tubing kits for the 0.5 inch and 1 inch have the respected length of 20x diameter before and 5x diameter after the flow sensors. For the 2 inch, due to weight, we used 15x diameter before and 5x diameter after the flow sensors. We offer tubing kits in BSP and NPT thread styles.



Specifications

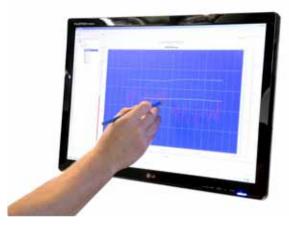
RUN STATUDE Thermabridge" Thermal Mass flow sensor Reasuring principle 0.23 80 m ² /hr [0.13 50 SCFM 600 SCFM Flow range 0.15 inch 0.23 80 m ² /hr [0.15 150 SCFM 600 SCFM Accuracy 0.55 KF S5w with calibration report under calibration conditions with air Reference conditions 0°C, 1013 25 mar 132 °F, 14.695 pi Gase Compressed air, nitrogen and inert, non-condensing gases, 95% non-condensing gases Gase temperature range 0°C, 0 13 2 140 °F PRESSURE SENSOR PRESSURE sensor Temperature sensor range 0 60 °C [32 140 °F Accuracy 1.05 m/ foc 95 (52 140 °F) Accuracy 1.00 °C [32 140 °F Accuracy 1.00 °C [12 140 °F Accurac	FLOW SENSOR					
Flow range 1 inch 0.23 80 m² /rr 0.13 50 SCFM Flow range 1 inch 0.91 250 m² /hr 0.54 150 SCFM Flow range 2 inch 3.55 1000 m² /hr 0.54 150 SCFM Accuracy 0.5% FSS with calibration report under calibration conditions with air Reference conditions 0 'C (101.25 CM PSS PSi Gases Compressed air, nitrogen and inert, non-condensing gases, 95% non-condensing gases Gases O 60 °C (1 32 140 °F PRESSURE SENSOR Pressure sensor range 0 60 °C (1 32 140 °F Accuracy ± 1.5% FSS (0 60 °C) ± 1.5% FSS (22 140 °F Accuracy ± 1.0 m /sec : + 5 °C (1 9 °F due to self-heating of the flow sensor DATA OUTPUTS Accuracy 5 10 m /sec : + 5 °C (1 9 °F due to self-heating of the flow sensor DSinch St485 (Modbus RTU) Usid Crystal (LCD) Back light Blue, with auto power save 0.7 Kg 1.54 lbs Data logger (option) 2 million points memory 0 7 Kg 1.54 lbs Dish m 1 S0 mm x 50 mm x 85 mm 15.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs Inch 135 mm x 50 mm x 85 mm 15.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs Inch 135 mm x 50 mm x 85 mm 15.31"		Thermahridge™ Thermal Mass flow sensor				
Flow range 1 inch 0.91 250 m²/m² (0.54 150 SCFM Flow range 2 inch 3.55 1000 m²/m² (2.15 600 SCFM Accuracy 0.5% FSS with calibration report under calibration conditions with air Reference conditions 0 °C, 1013.25 mbar] 32 °F, 14.695 psi Gases Compressed air, introgen and inert, non-condensing gases, 95% non-condensing gases Gases 0 60 °C 32 140 °F Pressure sensor range 0 60 °C 15.% FSS (32 140 °F) Accuracy 1.15% FSS (0 60 °C) 1.15% FSS (32 140 °F) Compressed to self-heating of the flow sensor Compressed to self-heating of the flow sensor DATA OUTPUTS Analog 4 20 mA or pulse, selectable via installation software Analog 4 20 mA or pulse, selectable via installation software Serial IO Mini USB interface for configuration (display version only) DISPLAY/DATA LOGGER Technology Liquid Crystal (LCD) Back light Bue, with auto power save 0.7 Kg 1.54 lbs 1 inch 135 mm x50 mm x53 mm 5.31″ x 1.9″ x 3.5″ 0.7 Kg 1.54 lbs 1 inch 135 mm x50 mm x25 mm (5.31″ x 1.9″ x 3.5″ <		-				
Flow range 2 inch 3.55 1000 m ⁴ /hr [2.15 600 SCFM Accuracy 0.5% FSS with calbration report under calibration canditions with air Reference conditions 0 "C, 103.25 mbar [32 °, 14.695 psi Gases Compressed air, nitrogen and inert, non-condensing gases, 95% non-condensing gases Gase temperature range 0 60 °C [32 140 °F Pressure sensor range 0 15 bar [0 250 psi gauge [35 bar] 500 psi on request] Accuracy ± 1.5% FSS (0 60 °C) ± 1.5% FSS [32 140 °F Temperature sensor range 0 60 °C [32 140 °F Accuracy ± 1.5% FSS (0 60 °C) ± 1.5% FSS [32 140 °F Temperature sensor range 0 60 °C [32 140 °F Accuracy 2 20 mA or pulse, selectable via installation software Analog 4 20 mA or pulse, selectable via installation software Serial IO R5485 (Modbus RTU) USB Uiquid Crystal (LCD) Back light Blue, with auto power save Data logger (option) 12 millon points memory DIMENSIONS & WEILMEN Iss mm x 50 mm x 55 mm [5.31" x 1.97" x 3.56" 0.7 Kg [1.54 lbs 1inch 135 mm x 90 mm x 125 mm [5.31" x 1.97" x 3.56" 0.7 Kg [1.54 lbs 2inch I	-					
Accuracy 0.5% FSS with calibration report under calibration conditions with air Reference conditions 0 °C, 1013.25 mbar 32 °F, 14.695 psi Gases Compressed air, nitrogen and inert, non-condensing gases, 95% non-condensing gases Gast temperature range 060 °C 32 140 °F PRESSURE SENSOR Image: Compression of the comparison of th	_					
Reference conditions 0 °C, 1013.25 mbar 32 °F, 14.695 psi Gases Compressed air, nitrogen and inert, non-condensing gases, 95% non-condensing gases Gases 0 60 °C 32 140 °F PRESSURE SENSOR ************************************	-					
Gases Compresed air, nitrogen and inert, non-condensing gases, 95% non-condensing gases Gas temperature range 0 60 °C 32 140 °F Pressure sensor range 0 16 bar 0 250 psi gauge (35 bar 500 psi on request) Accuracy ± 15% FSS (0 60 °C) ± 1.5% FSS (32 140 °F) Temperature sensor range 0 60 °C 32 140 °F Accuracy > 10 m /sec: +5 °C 9 °F due to self-heating of the flow sensor DATA OUTPUTS - Analog 4 20 mA or pulse, selectable via installation software Serial IO RS485 (Modbus RTU) USB Mini USB interface for configuration (display version only) Data logger (option) 2 million points memory Diffentions 2 million points memory Diffentions 2 million points memory Diffention 155 mm x 90 mm x 15.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs 1 inch 135 mm x 50 mm x 50 mm x 5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs 1 inch 135 mm x 90 mm x 125 mm 5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs 1 inch 135 mm x 90 mm x 125 mm 5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs 1 inch 16 Kg i 3.58 lbs 060 °C 321	·					
Gas temperature range 0 60 °C 32 140 °F PRESSURE SENSOR 16 bar 0 250 psi gauge (35 bar 500 psi on request) Accuracy 1.15 % FSS (0 60 °C) ± 1.5% FSS (32 140 °F) Temperature sensor range 0 60 °C 32 140 °F Accuracy > 10 m / sec: +1 °C 1.8 °F Accuracy > 10 m / sec: +5 °C 9 °F due to self-heating of the flow sensor DATA OUTPUTS 20 mA or pulse, selectable via installation software Serial IO R5485 (Modbus RTU) USB Mini USB interface for configuration (display version only) DISPLAY/DATA LOGGER Technology Technology Liquid Crystal (LCD) Back light Blue, with auto power save DATA OUTPUTS 35 mm x 50 mm x 85 mm [5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs Data logger (option) 2 million points memory 35 mm x 50 mm x 85 mm [5.31" x 1.97" x 3.58" 0.7 Kg 1.54 lbs Jinch 135 mm x 50 mm x 85 mm [5.31" x 1.97" x 3.58" 0.7 Kg 1.54 lbs 6 Kg 3.58 lbs MECHANICAL & ENVIRON ENTEL 400 °F 400 °F Meten temperature range 0 60°C 32 140 °F 400 °F <td></td> <td colspan="5"></td>						
PRESSURE SENSOR Pressure sensor range 0 16 bar 0 250 psi gauge (35 bar 500 psi on request) Accuracy ± 1.5% FSS (0 60 °C) ± 1.5% FSS (32 140 °F) TEMPERATURE SENSOR Temporature sensor range 0 60 °C 32 140 °F Accuracy > 10 m /sec: +/ 1 °C 1.8 °F < 10 m /sec: +/ 5 °C 9 °F due to self-heating of the flow sensor						
Pressure sensor range 0 16 bar 0 250 psi gauge (25 bar 500 psi on request) Accuracy ± 1.5% FSS (0 60 °C) ± 1.5% FSS (32 140 °F) Temperature sensor range 0 60 °C 32 140 °F Accuracy > 10 m /sec: +/. 1 °C 1.8 °F < 10 m /sec: +/. 5 °C 9 °F due to self-heating of the flow sensor	Gas temperature range	0 60 °C 32 140 °F				
Accuracy ± 1.5% FSS (0 60 °C) ± 1.5% FSS (3 2 140 °F) TEMPERATURE SENSOR Temperature sensor range 0 60 °C 3 2 140 °F Accuracy > 10 m,/sec: + 1 °C 1.8 °F < 10 m,/sec: + 5 °C 9 °F due to self-heating of the flow sensor	PRESSURE SENSOR					
TEMPERATURE SENSOR Temperature sensor range 060 °C 32140 °F Accuracy >10 m/sec: +/. 1 °C 1.8 °F 10 m/sec: +5 °C 9 °F due to self-heating of the flow sensor DATA OUTPUTS Analog Analog 4 20 mA or pulse, selectable via installation software Serial IO R5485 (Modbus RTU) USB Mini USB interface for configuration (display version only) DISPLAY/DATA LOGGER Technology Etchnology Liquid Crystal (LCD) Back light Blue, with auto power save Data logger (option) 2 million points memory DIMENSIONS & WEIGHT 0.7 Kg 1.54 lbs 1 inch 135 mm x 50 mm x 85 mm 5.31″ x 1.97″ x 3.58″ 0.7 Kg 1.54 lbs 1 inch 135 mm x 50 mm x 125 mm 6.10″ x 3.54″ x 4.92″ 1.6 kg 3.58 lbs MECHANICAL & ENVIRONWENTAL Ingress Protection (IP) grade Pro5 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time. Ambient temperature range 060 °C 32140 °F Wetted materials Body: Anodized aluminum Sensor: Silcon, epoxy, glass Sealing: FTM 60, Polyurethane ELECTRICAL Connection type M12.	Pressure sensor range	0 16 bar 0 250 psi gauge (35 bar 500 psi on request)				
Temperature sensor range 0 60 °C 32 140 °F Accuracy > 10 m_/sec: +/- 1 °C 1.8 °F < 10 m_/sec: + 5 °C 9 °F due to self-heating of the flow sensor	Accuracy	± 1.5% FSS (0 60 °C) ± 1.5% FSS (32 140 °F)				
Temperature sensor range 0 60 °C 32 140 °F Accuracy > 10 m_/sec: +/- 1 °C 1.8 °F < 10 m_/sec: + 5 °C 9 °F due to self-heating of the flow sensor	TEMPERATURE SENSOR					
Accuracy > 10 m/sec: +f 1°C 18 °F OATA OUTPUTS Analog 4 20 mA or pulse, selectable via installation software Serial IO R5485 (Modbus RTU) USB Mini USB interface for configuration (display version only) DISPLAY/DATA LOGGER Iquid Crystal (LCD) Back light Blue, with auto power save Data logger (option) 2 million points memory DISPLAY/DATA 135 mm x 50 mm x 85 mm 5.31″ x 1.97″ x 3.35″ 0.7 Kg 1.54 lbs 1 inch 135 mm x 50 mm x 85 mm 5.31″ x 1.97″ x 3.35″ 0.7 Kg 1.54 lbs 2 inch 155 mm x 90 mm x 125 mm 6.10″ x 3.54″ x 4.92″ 1.6 Kg 3.58 lbs MECHANICAL & ENVIRON IP55 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time. Ambient temperature range 0 60°C 32 140°F Wetted materials Body: Anodzeal aluminum Sensor; glass sealing: FTM 60, Polyurethane ELECTRICAL Connection type M12, 5-pin connector, female and optional USB mini connector Power consumption 2 44 VDC +/- 10 % Class 2 (UL) Verter (Juli flow) +/- 10% (224VDC -/- 10% (214VDC) Power consumption 2.4. Watt (no flow) 4.8 Watt (full flow) +/- 10% (224VDC -/- 10% Class 2		0 60 °C 32 140 °F				
< 10 m/sec: + 5 °C 9 °F due to self-heating of the flow sensor						
Analog4 20 mA or pulse, selectable via installation softwar-Serial IOR5485 (Modbus RTU)USBMini USB interface for configuration (display version	,,					
Analog4 20 mA or pulse, selectable via installation softwar-Serial IOSc485 (Modbus RTU)USBMini USB interface for configuration (display version	ΔΑΤΑ ΟΠΤΡΠΤΣ					
Serial IORS485 (Modbus RTU)USBMini USB interface for configuration (display version only)DISPLAY/DATA LOGGERTechnologyLiquid Crystal (LCD)Back lightBlue, with auto power saveData logger (option)2 million points memoryDIMENSIONS & WEIGHT0.5 inch135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35"0.7 Kg 1.54 lbs1 inch135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.58"0.7 Kg 1.54 lbs2 inch155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92"1.6 Kg 3.58 lbsMECHANICAL & ENVIRONENTALIngress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60" C 32 140 "FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass sealing: FTM 60, PolyurethaneELECTRICALEConnection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10% Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% @24VDCPower consumption2.4 Watt (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment		4 20 mA or pulse, selectable via installation software				
USBMini USB interface for configuration (display version or lysplay version v	-	· · · · · · · · · · · · · · · · · · ·				
DISPLAY/DATA LOGGER Liquid Crystal (LCD) Back light Blue, with auto power save Data logger (option) 2 million points memory DIMENSIONS & WEIGHT 35 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35" 0.7 kg 1.54 lbs 1 inch 135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35" 0.7 kg 1.54 lbs 1 inch 135 mm x 50 mm x 85 mm 6.10" x 3.54" x 4.92" 1.6 kg 3.58 lbs 2 inch 155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92" 1.6 kg 3.58 lbs MECHANICAL & ENVIROVENTAL Ingress Protection (IP) grade IP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect tel P grade over time. Ambient temperature range 0 60 °C 32 140 °F Wetted materials Body: Anodized aluminum sers: Silicon, peoxy, glass sealing: FTM 60, Polyurethane ELECTRICAL ENVIRO M12, 5-pin connector, female and optional USB mini connector Power supply 12 24 VDC +/- 10 % Class 2 (UL) Power consumption 2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% @ 24 VDC UL/ CUL 14 Az, Industrial Control Equipment						
Technology Liquid Crystal (LCD) Back light Blue, with auto power save Data logger (option) 2 million points memory DIMENSIONS & WEIGHT 0.5 inch 135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs 1 inch 135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58" 0.7 Kg 1.54 lbs 2 inch 155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92" 16 Kg 3.58 lbs MECHANICAL & ENVIRON MEXANICAL & ENVIRON <td c<="" td=""><td></td><td></td></td>	<td></td> <td></td>					
Back lightBlue, with auto power saveData logger (option)2 million points memoryDIMENSIONS & WEIGHT0.5 inch135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35"0.7 Kg 1.54 lbs1 inch135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58"0.7 Kg 1.54 lbs2 inch155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92"1.6 Kg 3.58 lbsMECHANICAL & ENVIRONENTALIngress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALEnternation of the extreme temperature fluctuations may affect the IP grade over time.Power supply12 24 VDC +/- 10% Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	DISPLAY/DATA LOGGER					
Data logger (option)2 million points memoryDIMENSIONS & WEIGHT0.5 inch135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35"0.7 Kg 1.54 lbs1 inch135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58"0.7 Kg 1.54 lbs2 inch155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92"1.6 Kg 3.58 lbsIngress Protection (IP) gradeIngress Protection (IP) gradeP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALM12, 5-pin connector, female and optional USB mini-currectorPower supply12 24 VDC t/- 10% Class 2 (UL)Power consumption2.4 Watt (nof flow) 4.8 Watt (full flow) t/- 10% gratvDCPower consumption4.4 Z, Industrial Control EquipmentUL/ CUL14 AZ, Industrial Control Equipment	Technology	Liquid Crystal (LCD)				
DIMENSIONS & WEIGHT 135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs 1 inch 135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58" 0.7 Kg 1.54 lbs 2 inch 155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92" 1.6 Kg 3.58 lbs MECHANICAL & ENVIRON Meter ange do connector, at room temperature fuctuations may affect train and sunlight should be avoided. Extreme temperature fluctuations may affect traip and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time. Ambient temperature range 0 60 °C 32 140 °F Wetted materials Body: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, Polyurethane ELECTRICAL Connection type M12, 5-pin connector, female and optional USB mini connector Power supply 12 24 VDC +/- 10% Class 2 (UL) Power consumption 2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% @24VDC Power consumption 2.4 Watt (no flow) 200 mA (full flow) +/- 10% @24VDC UL/ CUL 14 AZ, Industrial Control Equipment	Back light	Blue, with auto power save				
0.5 inch135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35"0.7 Kg 1.54 lbs1 inch135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58"0.7 Kg 1.54 lbs2 inch155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92"1.6 Kg 3.58 lbs MECHANICAL & ENVIRON NECHANICAL & ENVIRONNECHANICAL & ENVIRONUNIC NO DE MARINE NETALIngress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FVetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALConnection typeM12, 5-pin connector, female and optional USB minitorectorPower supply2.4. VDC +/- 10% Class 2 (UL)Power consumption2.4. Watt (no flow) 4.8 Watt (full flow) +/- 10% @24VDCPOWER consumption2.4. Watt (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL0 4.4. Z, Industrial Control Equipment	Data logger (option)	2 million points memory				
1 inch135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58"0.7 Kg 1.54 lbs2 inch155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92"1.6 Kg 3.58 lbsMECHANICAL & ENVIRONMENTALIngress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum sensor: Silicon, epoxy, glass sealing: FTM 60, PolyurethaneELECTRICALConnection typeM12, 5-pin connector, female and optional USB mini-contectorPower supply12 24 VDC +/- 10% Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	DIMENSIONS & WEIGHT					
2 inch 155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92" 1.6 Kg 3.58 lbs MECHANICAL & ENVIRON Ingress Protection (IP) grade IP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time. Ambient temperature range 0 60 °C 32 140 °F Wetted materials Body: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, Polyurethane ELECTRICAL Intersection (IP) Power supply 12 24 VDC +/- 10% Class 2 (UL) Power consumption 2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% @24VDC UL/ CUL 14 AZ, Industrial Control Equipment	0.5 inch	135 mm x 50 mm x 85 mm 5.31" x 1.97" x 3.35" 0.7 Kg 1.54 lbs				
MECHANICAL & ENVIRONMENTALIngress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass sealing: FTM 60, PolyurethaneELECTRICALConnection typePower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	1 inch	135 mm x 55 mm x 91 mm 5.31" x 1.97" x 3.58" 0.7 Kg 1.54 lbs				
Ingress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALConnection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	2 inch	155 mm x 90 mm x 125 mm 6.10" x 3.54" x 4.92" 1.6 Kg 3.58 lbs				
Ingress Protection (IP) gradeIP65 when mated to connector, at room temperature; direct rain and sunlight should be avoided. Extreme temperature fluctuations may affect the IP grade over time.Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALConnection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment						
Ambient temperature range0 60 °C 32 140 °FWetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALConnection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment						
Wetted materialsBody: Anodized aluminum Sensor: Silicon, epoxy, glass Sealing: FTM 60, PolyurethaneELECTRICALConnection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	ingress Flotection (iF) grade					
ELECTRICALConnection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	Ambient temperature range	0 60 °C 32 140 °F				
Sealing: FTM 60, Polyurethane ELECTRICAL Connection type M12, 5-pin connector, female and optional USB mini connector Power supply 12 24 VDC +/- 10 % Class 2 (UL) Power consumption 2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDC UL/ CUL 14 AZ, Industrial Control Equipment	Wetted materials	Body: Anodized aluminum				
ELECTRICAL Connection type M12, 5-pin connector, female and optional USB mini connector Power supply 12 24 VDC +/- 10 % Class 2 (UL) Power consumption 2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDC UL/ CUL 14 AZ, Industrial Control Equipment						
Connection typeM12, 5-pin connector, female and optional USB mini connectorPower supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment						
Power supply12 24 VDC +/- 10 % Class 2 (UL)Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	ELECTRICAL					
Power consumption2.4 Watt (no flow) 4.8 Watt (full flow) +/- 10% 100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	Connection type	M12, 5-pin connector, female and optional USB mini connector				
100 mA (no flow) 200 mA (full flow) +/- 10% @24VDCUL/ CUL14 AZ, Industrial Control Equipment	Power supply	12 24 VDC +/- 10 % Class 2 (UL)				
	Power consumption					
CE EN 61326-1(2006) Class A, EN61000-6-1 (2007)	UL/ CUL	14 AZ, Industrial Control Equipment				
	CE	EN 61326-1(2006) Class A, EN61000-6-1 (2007)				

Software

VPStudio software

VPStudio software can be used for configuring VPInstruments' products, like:

- > View real time measurements
- > Retrieve logged data sessions
- > Setting your logging intervals
- > Setting your Modbus and networking parameters
- > Spanning the analogue output to 4 ... 20 mA or Pulse



VPStudio can be installed on your PC and communicates with the VPFlowScope via your PC's USB port.

Download via www.vpinstruments.com

VPVision

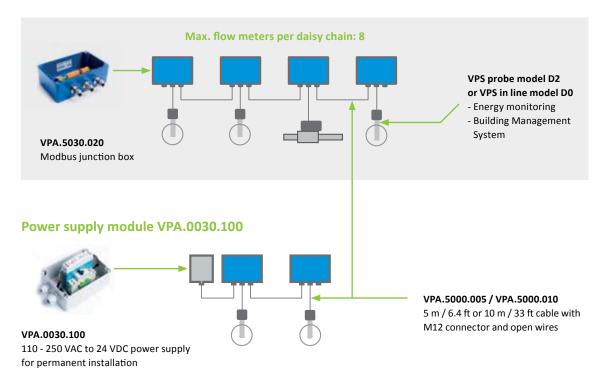
VPVision is the complete real time energy monitoring solution for all utilities within your company. Get a grip on your usage and see the patterns on your supply and demand side. Take factual and well-founded decisions on your costs and investments. Reveal the consumption of all utilities, including compressed air, technical gases, steam, vacuum, natural gas, electricity, waste water, heating fuels etc. VPVision enables you to view data on any platform; from PC to smartphone. It will help your organization raise the energy awareness among your staff. It will be your guiding hand to target energy savings for individuals, teams or at company-wide level.



Energy monitoring applications

Once you are working with an energy monitoring application, such as VPVision for example, the VPFlowScope can be read out through Modbus RTU. When you look at the image below, you will notice that you can connect up to eight VPFlowscope flow meters to one daisy chain. Following, you will need a junction box for each flow meter in order to connect it properly to the Modbus network.

However, if you would like to connect your flow meter to an existing Modbus network or 4 ... 20 / pulse based data acquisition system, you can use the power supply module to supply DC power to the flow meter. The power supply module can supply power to two flow meters at the same time. You will find screw terminals in the power supply module for both RS485 (Modbus RTU) and the 4 ... 20 mA / pulse output at your convenience. If you require more installation examples, please refer to the user manual.



Modbus network with multiple flow meters (DC power supplied from VPVision M)

"Thanks to the VPFlowScope In-line we found nearly 80,000 USD Argon leaks in our system. This was really an eye opener for us. We now implemented a new maintenance program based on permanent monitoring of our Argon consumption."

Accessories

Power supply module

The VPInstruments power supply module has been developed for the permanent installation of maximum two VPFlowScopes. However, the power supply module can be used to power up any device at 24 VDC up to 1 ampere. The field enclosure of the power supply module is rated IP65, which means it is well protected from dust and splashing water. The module can be wall mounted.



Specifications

Mechanical & Environmental

Construction: IP65 ABS enclosure Temperature: -20 ~ 40°C | -4 ~ 104°F Weight: 0.9 kg | 1.98 lbs Outer dimensions: 160 x 120 x 140 mm | 6.30" x 4.72" x 5.51"

Electrical

Supply input (mains): 110 - 250 VAC, 50 - 60Hz Supply output: 24 VDC 24 Watt

Part number

VPA.0030.100: power supply module in IP65 enclosure

Specifications

Aluminum IP65 enclosure 3 high quality cable glands included Built-in PCB with termination resistor and bias resistors LED indicator for power

Constructions

Aluminum enclosure, painted

Dimensions

125 x 80 x 57 mm | 4.92 x 3.15 x 2.24 inch

Part number

VPA.5030.020: modbus junction box (IP65)

Modbus junction box

VPInstruments offers a convenient junction box for quick and easy connection between VPFlowScope sensor modules and your Modbus RS485 network. This junction box contains a special PCB, with screw terminals for the Modbus trunk cable and the derivation cable. The built-in LED indicates when the sensor has sufficient power. This feature is very handy to check voltage drops over longer distances.





easy insight into energy flows™

Corporate Headquarters

VPInstruments Buitenwatersloot 335 2614 GS Delft The Netherlands T +31 (0)15 213 15 80 info@vpinstruments.com www.vpinstruments.com

USA Marketing & Sales office T +1 614 729 81 35 sales@vpinstruments.com

UK Marketing & Sales office T +44 (0)3333 661100 sales@vpinstrumentsuk.co.uk



Order today! Please contact your local distributor for the various options and possibilities or contact us at www.vpinstruments.com

