

AIR VELOCITY TRANSMITTERS

IVL air velocity transmitters are designed for measuring air velocity and temperature inside the duct.

m/s, °C

supply	24 Vac/dc, < 1,5 VA
range, velocity	IVL 10: 0...10 m/s, IVL 02: 0...2 m/s, IVL 20: 0...20 m/s
range, temperature	0...+50 °C
output 1, velocity	0...10 V < 2 mA or 4...20 mA < 600 Ω
output 2, temperature	0...10 V < 2 mA or 4...20 mA < 600 Ω
ambient temperature	0...+50 °C
stem	10 x 200 mm
housing	IP54, stem or cable gland downwards
mounting	with flange, adjustable probe depth



2

TYPE ART NO.

IVL 10	1130010	air velocity transmitter 0...10 m/s, adjustable probe depth 50...190 mm
IVL 10-N	1130012	air velocity transmitter with display, 0...10 m/s, adjustable probe depth 50...190 mm
IVL 02	1130030	air velocity transmitter 0...2 m/s, adjustable probe depth 50...190 mm
IVL 02-N	1130032	air velocity transmitter with display, 0...2 m/s, adjustable probe depth 50...190 mm
IVL 20	1130050	air velocity transmitter 0...20 m/s, adjustable probe depth 50...190 mm
IVL 20-N	1130053	air velocity transmitter with display, 0...20 m/s, adjustable probe depth 50...190 mm

Versions with 100 mm and 400 mm stems are also available, e.g. IVL 20-400.

AIR VELOCITY TRANSMITTERS

IVLJ air velocity transmitters are designed for measuring air velocity and temperature inside the duct.

m/s, °C

supply	24 Vac/dc, < 1.5 VA
range, velocity	IVLJ 10: 0...10 m/s, IVLJ 02: 0...2 m/s, IVLJ 20: 0...20 m/s
range, temperature	0...+50 °C
output 1, velocity	0...10 V < 2 mA or 4...20 mA < 600 Ω
output 2, temperature	0...10 V < 2 mA or 4...20 mA < 600 Ω
ambient temperature	0...+50 °C
stem	10 x 200 mm
stem cable length	2 m
housing (transmitter)	IP54, cable glands downwards
mounting	stem with flange, adjustable probe depth transmitter with screws, external lugs



TYPE ART NO.

IVLJ 10	1130090	air velocity transmitter 0...10 m/s, adjustable probe depth 50...190 mm
IVLJ 02	1130040	air velocity transmitter 0...2 m/s, adjustable probe depth 50...190 mm
IVLJ 20	1130100	air velocity transmitter 0...20 m/s, adjustable probe depth 50...190 mm

Versions with 100 mm and 400 mm stems are also available, e.g. IVLJ 20-400.

DIFFERENTIAL PRESSURE TRANSMITTERS FOR AIR

PEL differential pressure transmitters are designed for clean / isolation room applications. The transmitter zero point is kept accurate by using the regular automatic zeroing, eliminating the possible zero point drifting.

Pa

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supply	24 Vac/dc, 2 VA
range	selectable at commissioning
output	0...10 Vdc < 2 mA or 4...20 mA < 900...1200 Ω
zeroing	automatic; regularly eliminates the possible zero point drifting
ambient temperature	-10...+45 °C
housing	IP54, cable gland downwards
mounting	with screws, external lugs



TYPE ART NO.

PEL	1131110	ranges 0...100, 0...200, 0...500, 0...1000, ±50, ±100, ±250 or ±500 Pa
PEL-N	1131111	with display, ranges identical with PEL
PEL 25K	1131220	ranges 0...2, 0...4, 0...7, 0...10, 0...15, 0...20 or 0...25 kPa
PEL 25K-N	1131221	with display, ranges identical with PEL 25K
PEL-AS	1131010	PEL accessory kit, includes 2 m hose and duct assemblies

DIFFERENTIAL PRESSURE TRANSMITTERS FOR AIR

PEL 2500 differential pressure transmitters are designed for controlling pressures in the air handling units or detecting air volumes. Output signal can be selected either differential pressure linear or flow (volume) linear. The transmitter zero point is kept accurate by using the regular automatic zeroing, eliminating the possible zero point drifting.

Pa

supply	24 Vac/dc, 2 VA
range	selectable at commissioning
output	0...10 Vdc, < 2 mA
zeroing	automatic; regularly eliminates the possible zero point drifting
ambient temperature	-10...+45 °C
housing	IP54, cable gland downwards
mounting	with screws, external lugs



TYPE ART NO.

PEL 2500	1131210	ranges ±100, 0...100, 0...200, 0...500, 0...1000, 0...2000 or 0...2500 Pa
PEL 2500-N	1131211	with display, ranges identical with PEL 2500
PEL-AS	1131010	PEL accessory kit, includes 2 m hose and duct assemblies

DIFFERENTIAL PRESSURE TRANSMITTERS FOR AIR

PEL 1000 differential pressure transmitters are designed for fan controlling and air handling unit filter monitoring.

Pa

supply	24 Vac/dc, 1 VA
range	selectable at commissioning
output	0...10 V, < 3 mA
ambient temperature	0...+50 °C
zeroing	manual; process connections must be removed before zeroing
housing	IP54, cable gland downwards
mounting	with screws, external lugs



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TYPE ART NO.

PEL 1000	1131140	range 0...500 or 0...1000 Pa
PEL 1000-N	1131141	with display, ranges identical with PEL 1000
PEL-AS	1131010	PEL accessory kit, includes 2 m hose and duct assemblies

AIR FLOW TRANSMITTERS

IML is designed for detecting and controlling air flow in air handling units and rooms.

IML-M has RS-485 connection for Modbus RTU communication.

m³/s, m³/h, l/s, Pa

supply	24 Vac/dc, 2 VA
range	selectable at commissioning
output 1, air volume	0...10 Vdc, < 2 mA
output 2, diff. pressure or control	0...10 Vdc, < 2 mA
input, external set point	0...10 Vdc, < 2 mA
zeroing	automatic; regularly eliminates the possible zero point drifting
ambient temperature	0...45 °C
housing	IP54, cable gland downwards
mounting	with screws, external lugs



TYPE ART NO.

IML	1131600	range 0...1000, 0...2000, 0...5000 or 0...7000 Pa
IML-M	1131610	IML for Modbus
PEL-AS	1131010	PEL accessory kit, includes 2 m hose and duct assemblies

AIR FLOW PROBE

PP air flow probes are designed for detecting air flow in the air handling systems. Different models with fixed Kv values are available for circular and rectangular ducts.

l/s



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TYPE	ART NO.	
PP-PK R100	1250010	air flow volume probe for a circular 100 mm duct
PP-PK R125	1250020	air flow volume probe for a circular 125 mm duct
PP-PK R160	1250030	air flow volume probe for a circular 160 mm duct
PP-PK R200	1250040	air flow volume probe for a circular 200 mm duct
PP-PK R250	1250050	air flow volume probe for a circular 250 mm duct
PP-PK R300	1250059	air flow volume probe for a circular 300 mm duct
PP-PK R315	1250060	air flow volume probe for a circular 315 mm duct
PP-PK R355	1250065	air flow volume probe for a circular 355 mm duct
PP-PK R400	1250070	air flow volume probe for a circular 400 mm duct
PP-PK R450	1250073	air flow volume probe for a circular 450 mm duct
PP-PK R500	1250075	air flow volume probe for a circular 500 mm duct
PP-PK R550	1250076	air flow volume probe for a circular 550 mm duct
PP-PK R600	1250008	air flow volume probe for a circular 600 mm duct
PP-PK R630	1250078	air flow volume probe for a circular 630 mm duct
PP-PK R700	1250077	air flow volume probe for a circular 700 mm duct
PP-PK R800	1250079	air flow volume probe for a circular 800 mm duct
PP-PK R1000	1250009	air flow volume probe for a circular 1000 mm duct
PP-SK L200	1250080	air flow volume probe for a 200 mm rectangular duct
PP-SK L250	1250090	air flow volume probe for a 250 mm rectangular duct
PP-SK L300	1250100	air flow volume probe for a 300 mm rectangular duct
PP-SK L350	1250110	air flow volume probe for a 350 mm rectangular duct
PP-SK L400	1250120	air flow volume probe for a 400 mm rectangular duct
PP-SK L450	1250130	air flow volume probe for a 450 mm rectangular duct
PP-SK L500	1250140	air flow volume probe for a 500 mm rectangular duct
PP-SK L550	1250150	air flow volume probe for a 550 mm rectangular duct
PP-SK L600	1250160	air flow volume probe for a 600 mm rectangular duct
PP-SK L650	1250170	air flow volume probe for a 650 mm rectangular duct
PP-SK L700	1250180	air flow volume probe for a 700 mm rectangular duct
PP-SK L750	1250190	air flow volume probe for a 750 mm rectangular duct
PP-SK L800	1250200	air flow volume probe for a 800 mm rectangular duct
PP-SK L850	1250210	air flow volume probe for a 850 mm rectangular duct
PP-SK L900	1250220	air flow volume probe for a 900 mm rectangular duct
PP-SK L950	1250230	air flow volume probe for a 950 mm rectangular duct
PP-SK L1000	1250240	air flow volume probe for a 1000 mm rectangular duct
PP-SK L1050	1250250	air flow volume probe for a 1050 mm rectangular duct
PP-SK L1100	1250260	air flow volume probe for a 1100 mm rectangular duct
PP-SK L1150	1250270	air flow volume probe for a 1150 mm rectangular duct
PP-SK L1200	1250280	air flow volume probe for a 1200 mm rectangular duct

Other lengths also available on request.

HUMIDITY TRANSMITTERS

KLH room humidity transmitters are designed for detecting indoor relative humidity and temperature.

room % rH, °C

supply	24 Vac/dc, 1 VA
range 1, humidity	0...100 % rH
range 2, temperature	0...+50 °C
output 1, humidity	0...10 V = 0...100 % rH, 2 mA
output 2, temperature	0...10 V = 0...+50 °C, 2 mA
housing	IP20, ABS plastic
mounting	with screws on wall or on a junction box (hole distance 60 mm)



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TYPE	ART NO.	
KLH 100	1132210	room humidity transmitter
KLH 100-N	1132211	room transmitter with display (humidity and/or temperature display)
KLH-M	1132600	room humidity transmitter for Modbus RTU gateway
KLH-M-N	1132601	room transmitter with display for Modbus RTU gateway (humidity and/or temperature display)

HUMIDITY TRANSMITTERS

KLH 420 is a 2-wire humidity transmitter designed for detecting indoor relative humidity.

room % rH

operating voltage	12...35 Vdc
range	0...100 % rH
output, 2-wire transmitter	4...20 mA < 500 Ω (24 Vdc)
housing	IP20, ABS plastic
mounting	with screws on wall or on a junction box (hole distance 60 mm)



TYPE	ART NO.	
KLH 420	1132280	room humidity transmitter
KLH 420-N	1132281	room humidity transmitter with display

HUMIDITY TRANSMITTERS

KLK 100 duct humidity transmitters are designed for detecting relative humidity and temperature inside ventilation ducts.

duct % rH, °C

supply	24 Vac/dc, < 1 VA
range 1, humidity	0...100 % rH
range 2, temperature	-50...+50 °C
output 1, humidity	0...10 V < 2 mA / 4...20 mA < 600 Ω
output 2, temperature	0...10 V < 2 mA / 4...20 mA < 600 Ω
ambient temperature	-50...+50 °C
housing	IP54, sensor or cable gland downwards
mounting	with flange, adjustable probe depth < 150 mm



TYPE	ART NO.	
KLK 100	1132240	duct humidity transmitter
KLK 100-N	1132241	duct humidity transmitter with display

HUMIDITY TRANSMITTERS

KLHJ 100 transmitters are designed for detecting relative humidity and temperature. The probe cable length is 2 m.

room/duct % rH, °C

supply	24 Vac/dc, < 1 VA
range 1, humidity	0...100 % rH
range 2, temperature	-50...+50 °C
output 1, humidity	0...10 V < 2 mA / 4...20 mA < 600 Ω = 0...100 % rH
output 2, temperature	0...10 V < 1 mA / 4...20 mA < 600 Ω = -50...+50 °C
ambient temperature	-50...+50 °C
sensor cable	2 m
housing	IP54, cable gland downwards, (sensor IP50)
mounting	transmitter with screws (external lugs), sensor with flange, adjustable probe depth < 150 mm



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TYPE	ART NO.	
KLHJ 100	1132260	humidity and temperature transmitter
KLHJ 100-N	1132261	humidity and temperature transmitter with display

HUMIDITY TRANSMITTERS

KLU 100 humidity and temperature transmitters are designed for outdoor applications.

outdoor % rH, °C

supply	24 Vac/dc, < 1 VA
range 1, humidity	0...100 % rH
range 2, temperature	-50...+50 °C
output 1, humidity	0...10 V < 2 mA / 4...20 mA < 600 Ω
output 2, temperature	0...10 V < 1 mA / 4...20 mA < 600 Ω
ambient temperature	-50...+50 °C
housing	IP54, sensor downwards
mounting	with screws, external lugs



TYPE	ART NO.	
KLU 100	1132250	outdoor humidity transmitter
KLU 100-N	1132251	outdoor humidity transmitter with display

CONDENSATION SWITCH

Condensation switch KA 10 is designed for detecting water condensation in cooling systems, for example in cooling beams. With the condensation switch it is possible to control the cooling water supply when the water starts to condensate on the pipe. The KA 10-EXT model has an external condensation sensor.

0...10 V output, relay output

supply	24 Vac/dc, 1 VA
outputs	condensation information 0...10 Vdc
	relay output 24 Vac/dc, 2 A
cable gland	M16
ambient temperature	0...50 °C
housing	IP54, cable gland downwards



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TYPE ART NO.

KA 10	1187030	condensation switch
KA 10-EXT	1187031	condensation switch with external sensor, cable length 2 m

LIGHT LEVEL TRANSMITTERS

LUX 24 is designed for detecting room light level.

room lx

supply	24 Vac, 1 VA
range	0...2000 lx
output	0...10 V < 5 mA or 4...20 mA < 500 Ω
ambient temperature	0...+50 °C
housing	IP20
mounting	by screws on wall or on junction box



TYPE ART NO.

LUX 24	1133320	light level transmitter
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LIGHT LEVEL TRANSMITTERS

LUX 34 is designed for detecting outdoor light level and temperature. Measured values can be used for controlling lighting and heating.

outdoor lx, °C

supply	24 Vac/dc, < 0,1 VA
range, light level	selectable at commissioning
range, temperature	-50...+50 °C
output 1, light level	0...10 V, < 1 mA
output 2, temperature	0...10 V, < 1 mA
ambient temperature	-40...+40 °C
housing	IP54, cable gland downwards
mounting	with screws, external lugs



TYPE ART NO.

LUX 34	1133310	light level transmitter, selectable range 0...1000 lx or 0...10000 lx
LUX 34-100	1133311	light level transmitter, selectable range 0...100 lx or 0...500 lx

LIGHT LEVEL SENSOR

LUX 11 is designed for detecting outdoor light level and temperature. Temperature sensor can be either an NTC 10 or NTC 20 thermistor.

outdoor lx, °C

range, illumination level	0...800 lx = 30...3 kΩ
range, temperature	-50...+50 °C
sensor, illumination level	photo resistive cell
sensor, temperature	NTC 10 or NTC 20
housing	IP54, cable gland downwards
mounting	with screws, external lugs



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TYPE	ART NO.	
LUX 11 + NTC 10	1133350	illumination and temperature sensor (NTC 10)
LUX 11 + NTC 20	1133351	illumination and temperature sensor (NTC 20)

LIGHT INTENSITY TRANSMITTER

MMSP1 is designed for detecting sun light intensity.

outdoor W/m²

supply	5...30 Vdc, 30 mW
range	0...1500 W/m ²
accuracy	±5 % (annual mean)
outputs	0...10 Vdc*, 0...3.125 Vdc, 0...150 mVdc or 4...20 mA
housing	IP65

* The supply voltage must be at least 12 V



TYPE	ART NO.	
MMSP1	1133360	sun light intensity transmitter