TWINFLOW STDRDCV

Direct Drive Twin Centrifugal Fan

TWINFLOW STDRDCV

Product Overview

- 3 standard sizes from 315mm to 500mm
- Air volume flow rates up to 1.65 m³/s (EC)
- Static pressures up to 960 Pa (EC)
- Suitable for operating temperatures up to +60°C
- Available in **EC**

Roof mounted Aluzinc Twin centrifugal fans with demand control. Designed to monitor and control one or more fan units simultaneously, with 6 pre-programmed fan applications.

Easy Installation
All models are designed for direct connection to standard diameter flexible or rigid circular ducting.

Easy Commissioning
Minimum and maximum ventilation rates as well as control settings can all be setup easily via the wall display provided. Settings can be loaded from one display copying settings between units quickly.

Space Saving
External roof mounting, ideal where space is a premium. Bird guard fitted as standard to stop damage by wildlife.

Efficient Performance
High efficiency low tonal noise backward curved centrifugal impellers are directly driven by an EC external rotor motor, provide low specific fan powers and stepless speed control without tonal noise generation.

Weather Resistance
Integral louvered air discharge provides protection against ingress from the elements and is self draining. The unit has backdraught shutters fitted as standard.

Twin Fan Operation
Allowing control for Auto changeover and duty share.

Controllability
Advanced control features provide an effective, efficient control to meet variable occupancy. This optimises the indoor air quality and energy use of the ventilation system. Available control, Humidity, Temperature, Presence, CO_2 and Constant Pressure.

Warranty
Each STDRDCV has a 12 month warranty.

Construction
Featuring a robust 1.2mm natural finish aluzinc casing. A removable lid is provided as standard to allow easy maintenance and cleaning.

Motor
EC external rotor motors fitted as standard. The motor contains sealed for life bearings. All motors are suitable for use in ambient air conditions up to +60°C.

Typical Applications
- Industrial Building
- Banks
- Hospitals
- Offices
- Hotels and Shopping Malls

Contents

Product Coding

Code	Reference
STDRDCV	Product Range
200	Diameter (200/250/315...)
–	
1	Voltage Supply (Single Phase / Three Phase)
AC	Motor Type (AC/EC)
A - Z	Additional Coding (A - Z) Product Variants
e.g.	STDRDCV200 / 1AC

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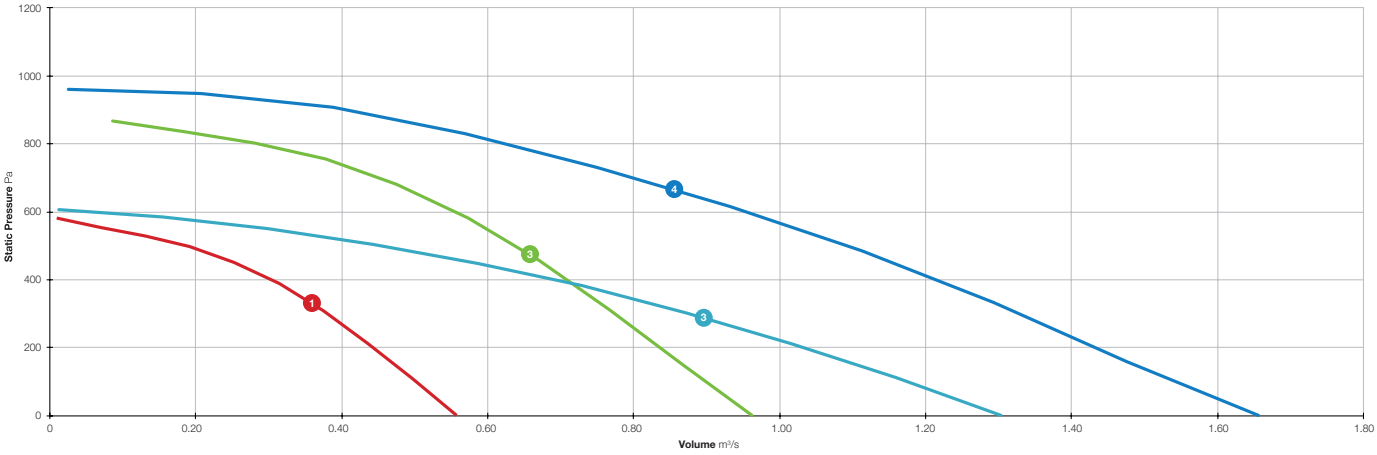
TWINFLOW STDRDCV

EC

Performance Range Curves



1. STDRDCV315 / 1EC
2. STDRDCV400 / 1EC
3. STDRDCV500 / 1EC
4. STDRDCV500 / 3EC

TWINFLOW STDRDCV

EC

Performance, SFP & Electrical Data

Single Phase 220V to 277V / 50Hz or 60Hz

Product Code	Control Voltage V	Speed r/min	Airflow SFP	Airflow m³/s @ Static Pressure Pa												At Best Efficiency Point		Electrical Data	dBA @ 3m	
				0	25	50	75	100	150	200	250	300	350	400	500	Overall Eff %	Input kW	Peak Amps		
STDRDCV315-1EC	10	2019	**m³/s**	**0.556**	**0.542**	**0.528**	**0.514**	**0.500**	**0.472**	**0.442**	**0.412**	**0.380**	**0.344**	**0.303**	**0.187**	38.0	0.411	1.90	Inlet	51
			W/(L/s)	0.69	0.71	0.73	0.74	0.76	0.81	0.86	0.92	0.99	1.08	1.20	1.73				Outlet	57
	8	1605	**m³/s**	**0.432**	**0.418**	**0.403**	**0.387**	**0.370**	**0.331**	**0.284**	**0.223**	**0.133**	-	-	-	32.5	0.222	1.05	Inlet	45
			W/(L/s)	0.49	0.51	0.53	0.55	0.58	0.64	0.73	0.88	1.25		-	-				Outlet	50
	5	968	**m³/s**	**0.254**	**0.216**	**0.182**	**0.149**	**0.105**	-	-	-	-	-	-	-	23.3	0.064	0.33	Inlet	35
			W/(L/s)	0.25	0.29	0.33	0.40	0.52	-	-	-	-	-	-	-				Outlet	38
	2	328	**m³/s**	**0.064**	-	-	-	-	-	-	-	-	-	-	-	2.3	0.014	0.10	Inlet	8
			W/(L/s)	0.22	-	-	-	-	-	-	-	-	-	-	-				Outlet	17
STDRDCV400-1EC	10	2204	**m³/s**	**0.962**	**0.945**	**0.929**	**0.913**	**0.898**	**0.867**	**0.836**	**0.805**	**0.774**	**0.742**	**0.709**	**0.638**	43.6	0.944	4.29	Inlet	61
			W/(L/s)	0.89	0.91	0.93	0.94	0.96	1.00	1.04	1.08	1.12	1.17	1.23	1.36				Outlet	65
	8	1765	**m³/s**	**0.760**	**0.744**	**0.728**	**0.712**	**0.695**	**0.661**	**0.625**	**0.586**	**0.542**	**0.493**	**0.432**	**0.160**	39.9	0.526	2.46	Inlet	56
			W/(L/s)	0.60	0.62	0.65	0.67	0.69	0.74	0.80	0.85	0.92	1.00	1.11	2.08				Outlet	59
	5	1061	**m³/s**	**0.433**	**0.409**	**0.381**	**0.349**	**0.311**	**0.196**	-	-	-	-	-	-	29.7	0.132	0.62	Inlet	41
			W/(L/s)	0.28	0.30	0.33	0.37	0.42	0.61	-	-	-	-	-	-				Outlet	43
	2	355	**m³/s**	**0.111**	-	-	-	-	-	-	-	-	-	-	-	18.2	0.005	0.19	Inlet	18
			W/(L/s)	0.04	-	-	-	-	-	-	-	-	-	-	-				Outlet	22
STDRDCV500-1EC	10	1415	**m³/s**	**1.302**	**1.271**	**1.240**	**1.208**	**1.175**	**1.107**	**1.035**	**0.959**	**0.877**	**0.788**	**0.691**	**0.456**	44.3	0.776	3.43	Inlet	52
			W/(L/s)	0.56	0.57	0.58	0.60	0.62	0.66	0.71	0.76	0.83	0.91	1.01	1.37				Outlet	59
	8	1157	**m³/s**	**1.020**	**0.982**	**0.942**	**0.902**	**0.860**	**0.771**	**0.672**	**0.561**	**0.427**	**0.240**	-	-	40.3	0.429	1.89	Inlet	47
			W/(L/s)	0.39	0.41	0.43	0.45	0.47	0.52	0.60	0.70	0.85	1.26	-	-				Outlet	53
	5	696	**m³/s**	**0.600**	**0.518**	**0.441**	**0.358**	**0.256**	-	-	-	-	-	-	-	31.4	0.115	0.58	Inlet	35
			W/(L/s)	0.19	0.22	0.25	0.29	0.37	-	-	-	-	-	-	-				Outlet	39
	2	234	**m³/s**	**0.133**	-	-	-	-	-	-	-	-	-	-	-	13.8	0.005	0.18	Inlet	10
			W/(L/s)	0.03	-	-	-	-	-	-	-	-	-	-	-				Outlet	16

Data provided is at standard air density of 1.2 kg/m³.
Data in accordance with ErP 1253/2014 of the European Parliament. Product category is NRVU. Measurement category used to determine energy efficiency: C.
A variable speed drive is integrated within the fan.
Peak Amps @ 230V / 1PH / 50Hz.
The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20µPa and is presented for comparative purposes only.

TWINFLOW STDRDCV

Performance, SFP & Electrical Data

Three Phase 380V to 480V / 50Hz or 60Hz

Product Code	Control Voltage V	Speed r/min	Airflow SFP	Airflow m³/s @ Static Pressure Pa												At Best Efficiency Point		Electrical Data	dBA @ 3m	
				0	25	50	75	100	150	200	250	300	350	400	500	Overall Eff %	Input kW	Peak Amps		
STDRDCV500-3EC	10	1803	**m³/s**	**1.655**	**1.620**	**1.590**	**1.561**	**1.534**	**1.482**	**1.432**	**1.381**	**1.328**	**1.274**	**1.217**	**1.093**	44.9	1.588	2.43	Inlet	60
			W / (L/s)	0.86	0.89	0.91	0.94	0.96	1.01	1.06	1.10	1.15	1.20	1.26	1.38				Outlet	68
	8	1449	**m³/s**	**1.287**	**1.251**	**1.216**	**1.180**	**1.144**	**1.072**	**0.998**	**0.922**	**0.844**	**0.763**	**0.676**	**0.480**	41.6	0.859	1.41	Inlet	54
			W / (L/s)	0.66	0.68	0.69	0.71	0.72	0.76	0.81	0.86	0.91	0.98	1.07	1.36				Outlet	60
	5	870	**m³/s**	**0.770**	**0.698**	**0.630**	**0.563**	**0.497**	**0.355**	**0.169**	-	-	-	-	-	35.4	0.209	0.49	Inlet	41
			W / (L/s)	0.28	0.29	0.31	0.34	0.37	0.48	0.83	-	-	-	-	-				Outlet	46
	2	293	**m³/s**	**0.189**	-	-	-	-	-	-	-	-	-	-	-	7.0	0.024	0.16	Inlet	14
			W/(L/s)	0.13	-	-	-	-	-	-	-	-	-	-	-				Outlet	22

Data provided is at standard air density of 1.2 kg/m³.
Data in accordance with ErP 1253/2014 of the European Parliament. Product category is NRVU. Measurement category used to determine energy efficiency: C.
A variable speed drive is integrated within the fan.
Peak Amps @ 400V / 3PH / 50Hz.
The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20µPa and is presented for comparative purposes only.

TWINFLOW STDRDCV

Sound Data

Single Phase 220V to 240V / 50Hz or 60Hz

Product Code	Control Voltage V		Sound Power Level dBW @ Octave Band Hz								Total dB
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
STDRDCV315-1EC	10	Inlet	84	80	79	65	58	60	56	52	86
		Outlet	77	83	83	74	71	66	62	60	87
	8	Inlet	78	78	70	58	51	54	49	44	81
		Outlet	71	80	73	67	64	60	55	50	82
	5	Inlet	69	70	58	44	38	41	38	23	73
		Outlet	64	71	61	52	51	46	41	30	72
	2	Inlet	45	35	34	17	18	21	14	7	46
		Outlet	42	37	39	26	36	28	18	22	45
STDRDCV400-1EC	10	Inlet	89	89	89	74	70	67	64	63	94
		Outlet	83	86	90	81	81	75	70	67	93
	8	Inlet	84	87	83	68	63	61	58	54	90
		Outlet	76	86	84	75	76	70	63	59	89
	5	Inlet	74	76	64	53	48	47	43	35	78
		Outlet	67	75	66	59	58	53	46	39	76
	2	Inlet	55	44	46	33	29	19	12	13	56
		Outlet	43	44	45	42	37	21	16	23	50
STDRDCV500-1EC	10	Inlet	85	81	76	71	62	61	57	55	87
		Outlet	82	87	82	77	74	68	64	62	90
	8	Inlet	82	78	71	65	56	55	52	51	84
		Outlet	78	83	77	71	68	62	57	56	85
	5	Inlet	76	64	58	51	43	42	41	28	76
		Outlet	72	68	62	56	54	48	45	33	74
	2	Inlet	47	41	36	27	18	14	14	21	48
		Outlet	39	44	41	36	30	18	14	21	47

Data provided at standard air density of 1.2 kg/m³.
Tests and preparation of the sound data have been carried out in accordance with BS 848 Part 2:1985 at 50% peak pressure.
The Sound Power Level Spectra are in dB re-1pW.

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TWINFLOW STDRDCV

Sound Data

Three Phase 380V to 480V / 50Hz or 60Hz

Product Code	Control Voltage V		Sound Power Level dBW @ Octave Band Hz								Total dB
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
STDRDCV500-3EC	10	Inlet	91	87	86	77	70	69	65	63	93
		Outlet	88	91	93	86	82	76	72	70	97
	8	Inlet	88	85	78	72	63	62	58	59	90
		Outlet	83	88	84	79	75	69	65	64	91
	5	Inlet	80	72	64	57	48	51	49	41	81
		Outlet	76	75	69	63	60	56	53	46	79
	2	Inlet	54	42	36	31	28	27	14	15	54
		Outlet	51	48	42	40	40	33	21	22	54

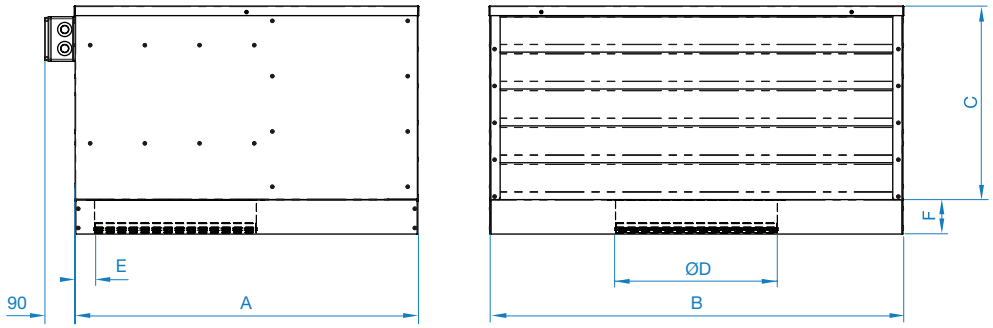
Data provided at standard air density of 1.2 kg/m³.
Tests and preparation of the sound data have been carried out in accordance with BS 848 Part 2:1985 at 50% peak pressure.
The Sound Power Level Spectra are in dB re-1pW.

TWINFLOW STDRDCV

Dimensional Data

Single & Three Phase

Product Code	A	B	C	D	E	F	Weight kg
STDRDCV315-1EC	750	864	478	315	73	85	65
STDRDCV400-1EC	846	1019	478	400	48	85	85
STDRDCV500-1EC	988	1254	606	500	50	85	118
STDRDCV500-3EC	988	1254	606	500	50	85	118



Dimensions are in mm.

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TWINFLOW STDRDCV

EC

EcoDesign 1253/2014 - Information Requirements

REV2 01/05/2018

A	B	C*			D	E	F	G	H	I	J	K	L	N	O	P	Q	R	S
		C.1	C.2	C.3															
Elta Fans Ltd	**STDRDCV315-1EC**	NRVU	UVU	2018	Variable-Speed	None	n/a	0.298	0.364	n/a	3.83	406	n/a	37.2	n/a	n/a	n/a	51	www.eltafans.com
Elta Fans Ltd	**STDRDCV400-1EC**	NRVU	UVU	2018	Variable-Speed	None	n/a	0.521	0.848	n/a	4.15	638	n/a	42.9	n/a	n/a	n/a	61	www.eltafans.com
Elta Fans Ltd	**STDRDCV500-1EC**	NRVU	UVU	2018	Variable-Speed	None	n/a	0.671	0.694	n/a	3.41	410	n/a	43.6	n/a	n/a	n/a	52	www.eltafans.com
Elta Fans Ltd	**STDRDCV500-3EC**	NRVU	UVU	2018	Variable-Speed	None	n/a	0.736	1.322	n/a	3.75	739	n/a	44.4	n/a	n/a	n/a	60	www.eltafans.com

A Manufacturer's Name
B Model Identifier
C.1 RVU or NRVU
C.2 UVU or BVU
C.3 ErP Compliance
D Type of Drive (MSD or VSD)
E Type of HRS (Run Around or Other or None)
F Thermal Efficiency (% or N/A)
G Nominal Flow Rate (m^3/s)
H Effective electrical power input (kW)
I SFP int ($W/m^3/s$)
J Face Velocity (m/s)
K Nominal External Pressure (Pa)
L Internal pressure drop of ventilation components (Pa)
N Static efficiency of fan used 327/2011
O Maximum external leakage rate (%)
P Energy Classification of filters
Q Description of visual filter warning
R Casing sound power level (LWA)
S Website for disassembly instructions

* Declared Typology C

TWINFLOW STDRDCV

Accessories

Single Phase

Product Code	Box Fan Flexible Connector (each)	Fast Clamps (each)	Spigot Silencer 300mm Long	Spigot Silencer 600mm Long	Spigot Silencer 900mm Long	Spigot Silencer 1200mm Long	Wiring Diagram
STDRDCV315-1EC	018-0315-FLEX	018-315-CLAMP	068-0315-JF1	068-0315-JF2	068-0315-JF3	068-0315-JF4	152-709
STDRDCV400-1EC	018-0400-FLEX	018-400-CLAMP	068-0400-JF1	068-0400-JF2	068-0400-JF3	068-0400-JF4	152-709
STDRDCV500-1EC	018-0500-FLEX	018-500-CLAMP	068-0500-JF1	068-0500-JF2	068-0500-JF3	068-0500-JF4	152-709

Three Phase

Product Code	Box Fan Flexible Connector (each)	Fast Clamps (each)	Spigot Silencer 300mm Long	Spigot Silencer 600mm Long	Spigot Silencer 900mm Long	Spigot Silencer 1200mm Long	Wiring Diagram
STDRDCV500-3EC	018-0500-FLEX	018-500-CLAMP	068-0500-JF1	068-0500-JF2	068-0500-JF3	068-0500-JF4	152-709

DCV Accessories

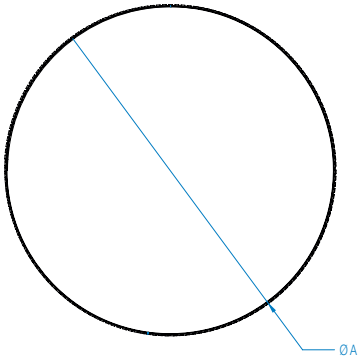
DCV Accessories	CO_2 Transmitter	DCV LCD Display	Humidity Transmitter	Presence Detector	Pressure Transmitter	Room Humidistat	Temperature Transmitter
All DCV products	149-DCV-CO2	149-DCV-MK3-CTRL	149-DCV-HRT	149-DCV-PIR	149-DCV-DPT150	149-DCV-H1	149-DCV-TRT

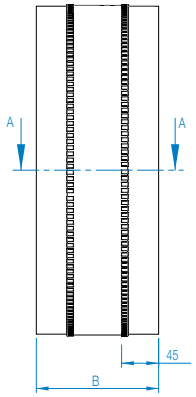
BOX FAN FLEXIBLE CONNECTOR

Accessories

- Fix directly on to spigot
- Provides flexible connection between fan and accessory or duct
- PVC coated polyester with galvanised sheet steel

Product Code	Fan Dia. A	B	Weight kg
018-0315-FLEX	315	150	0.5
018-0400-FLEX	400	150	0.7
018-0500-FLEX	500	150	1.0





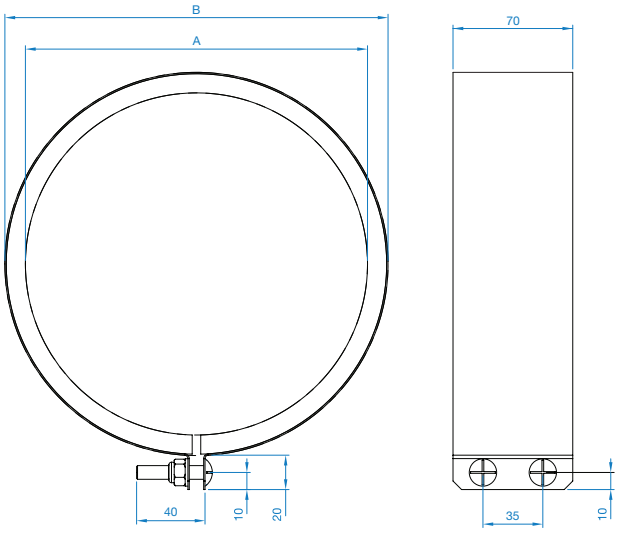
Dimensions are in mm.

FAST CLAMPS

Accessories

- For quick connection of spigotted fans to circular duct or accessories
- Galvanised steel circular duct clamp with foam lining

Product Code	Fan Size	A Dia.	B Dia.	Weight kg
018-315-CLAMP	315	315	339	0.59
018-400-CLAMP	400	400	424	0.74
018-500-CLAMP	500	500	524	0.87



Dimensions are in mm.

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SPIGOT SILENCER

Accessories

- Small metric range of attenuators with spigot connection
- Ideal for small fans
- Ideal for cross talk elimination
- Ideal for flexible or spiral ducting

Construction

Both types are rigidly constructed in galvanised sheet steel, with a highly absorbent sound attenuating lining between the outer casing and the inner perforated steel lining. The end faces of the silencer do not have threaded holes for fixings, but has a steel spigot for ease of mounting.

Melinex lined silencers must be used to prevent grease impregnation into the acoustic media for kitchen extract applications as prescribed in DW/172 HVAC Specification For Kitchen Ventilation Systems. For Melinex insertion losses, please contact Elta Fans. Silencers can be provided with differing lengths: 300, 600, 900 and 1200mmm.

Silencer Attenuation

To determine the sound level of a fan fitted with a silencer, the dynamic insertion loss should be subtracted from the sound power level spectrum (dBW) of the fan. This should be done for the entire octave band mid-frequency spectrum. The fan dBW ratings and silencer attenuation apply equally to in duct applications, with a silencer connected between the fan and the duct system.

Dynamic Insertion Loss

The silencer attenuation is defined as the “dynamic insertion loss”. The values quoted in the tables represent the difference between the sound power level of a fan and silencer combination (dBW) and that of the fan alone (dBW). The dynamic insertion losses shown are the attenuations recorded under ideal working conditions. The achieved attenuation will vary according to the air velocity and flow pattern in the airways. Noise regeneration can occur at higher velocities, especially in EP silencers.

Square / Rectangular Silencers

In highly noise sensitive areas, where the circular silencers cannot achieve the necessary attenuation levels, Elta Fans can design and build optional splitter silencers for greater effect.

SPIGOT SILENCER

Dynamic Insertion Loss

Product Code	Length	Insertion Loss @ Octave band (Hz)							
		63	125	250	500	1K	2K	4K	8K
068-0315-JF1	300mm	-1	-3	-6	-12	-15	-18	-16	-8
068-0315-JF2	600mm	-3	-5	-8	-16	-21	-22	-16	-14
068-0315-JF3	900mm	-4	-7	-10	-20	-31	-28	-17	-14
068-0315-JF4	1200mm	-6	-9	-14	-23	-32	-32	-18	-15
068-0400-JF1	300mm	-1	-2	-4	-11	-15	-15	-12	-8
068-0400-JF2	600mm	-2	-4	-7	-14	-17	-18	-14	-11
068-0400-JF3	900mm	-3	-6	-9	-18	-26	-23	-15	-12
068-0400-JF4	1200mm	-5	-8	-13	-22	-30	-27	-17	-12
068-0500-JF1	300mm	-1	-1	-3	-10	-14	-14	-11	-7
068-0500-JF2	600mm	-2	-4	-6	-14	-16	-16	-13	-11
068-0500-JF3	900mm	-3	-6	-8	-17	-24	-21	-15	-11
068-0500-JF4	1200mm	-4	-8	-12	-19	-28	-23	-16	-12

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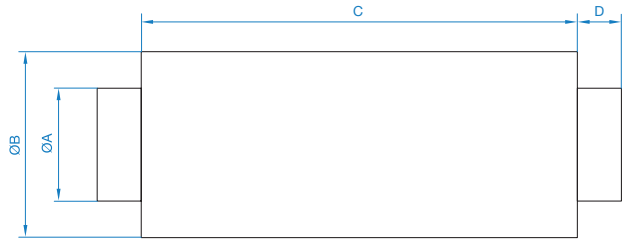
SPIGOT SILENCER

Dimensional Data

Product Code	Fan Dia.	A	B	C	D	Weight kg
068-0315-JF1	315	313	420	300	40	6.1
068-0315-JF2	315	313	420	600	40	11.1
068-0315-JF3	315	313	420	900	40	16.1
068-0315-JF4	315	313	420	1200	40	21.0
068-0400-JF1	400	398	505	300	40	7.5
068-0400-JF2	400	398	505	600	40	13.6
068-0400-JF3	400	398	505	900	40	19.8
068-0400-JF4	400	398	505	1200	40	25.9



For 500 model, please contact Elta Fans.
Dimensions are in mm.

CO_2 TRANSMITTER

Accessories

- Power Supply 24V AC or DC
- CO_2 Level 0 - 2000ppm
- Temperature 0 - 50°C
- Excellent Long Term Stability
- Snap-in Cover

Overview

149-DCV-CO2 is a room transmitter for measuring carbon dioxide levels in air with an output signal 0 - 10V DC.

Function

149-DCV-CO2 with patented auto calibration process set new standards in CO_2 measuring for HVAC applications. The sensor is mounted in the cover-part of the casing. The cover is easy to detach from the back by means of snap-in grips and detachable terminals. This makes mounting easier. Furthermore, no cables have to be disconnected, which simplifies service and replacement.

Applications

The CO_2 level gives a direct indication of the indoor air quality. With this basic information, the ventilation can be controlled with high precision and the air quality improved. At the same time, the supply air will only be increased when necessary and the energy costs will thereby be reduced. 149-DCV-CO2 is suitable in environments such as cinemas, schools, conference rooms, assembly halls etc.

Measuring Principle

The CO_2 concentration is measured by means of infrared light, a technique that measures the absorption in gases. It has a reference measuring system that compensates values in relation to changes in light intensity.

Advantages

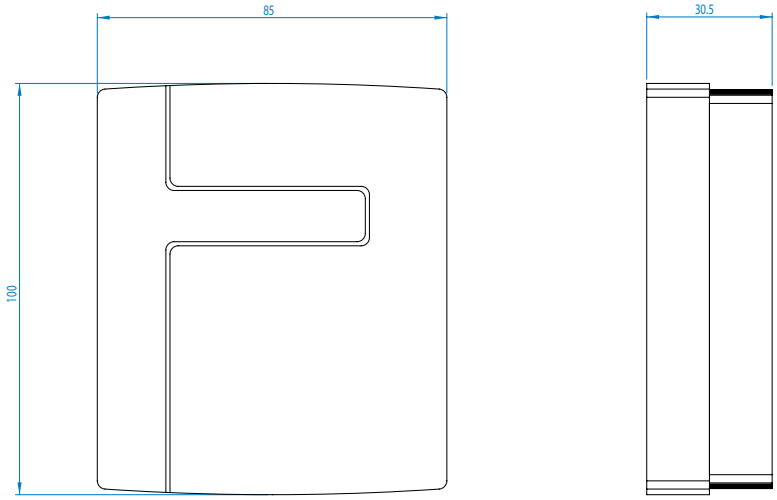
- Very high accuracy
- Exact identification of detected gas
- Low risk for contamination
- Short response time
- High long term stability
- Long calibration interval (>5 years)

CO_2 TRANSMITTER

Accessories

Product Code	Supply Voltage	Power Consumption W	Ambient Temperature °C	Ambient Humidity % RH	Temperature Dependance ppm CO_2/°C	Storage Temperature °C	Long Term Stability ppm/year
149-DCV-CO2	24V AC +/- 15%, 50/60Hz or 15/35V DC	3	-5 - +55	0 - 90 Not Condensating	typ. 5	-40 - 70	typ. 20

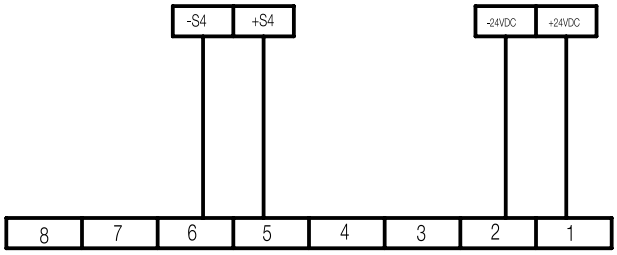
Product Code	Response Time	Warm-up Time	Protection Class	Measuring Principle	Working Range CO_2 ppm	Accuracy CO_2 ppm	Outputs Signal ppm
149-DCV-CO2	< 90s	< 5mins	IP30	NDIR (Non-Dispersive Infrared Technology)*	0 - 2000	< ± (50 +2% of measuring value)	CO_2 0 - V DC referring to 0 - 2000



Installation

149-DCV-CO2 should be mounted in a location with good air circulation and one that can be expected to give representative readings. 149-DCV-CO2 may be mounted either on a wall-box or straight on the wall. To remove the front cover, use a 3mm flat-blade screwdriver to depress the locking tongue in the lower part of the casing (see arrow figure). Press and twist the screwdriver and at the same time pull the bottom part of the front outwards. When the bottom end of the front is free from the casing bottom part, slide the cover towards the top of the casing to free the hooks holding the upper edge of the front cover.

Wiring Diagram



This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1 and EN 61000-6-3 and carries the CE mark.
N.B. System neutral and signal neutral should be separately wired, because of current peaks in the supply wires. Screw terminal: Max. 1.5mm².

DCV LCD DISPLAY

Overview

- Multi-function remote control panel with LCD display
- Supplied as standard with DCV products
- Suitable for surface mounting

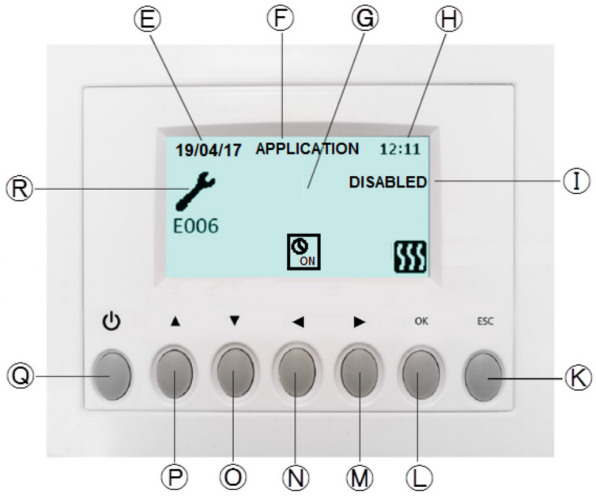
Programmable Control Functions

Product Code	Main Menu
149-DCV-MK3-CTRL	Language
	Date / Time
	P00: Fan Mode
	P01: Application
	P02: Sensor Range MIN
	P03: Sensor Range MAX
	P04: Setpoint
	P05: PID Control
	P06: Fixed Speed Value
	P07: Run On Time (minutes)
	P08: Min Fan Speed
	P09: Max Fan Sped
	P10: Slave Min Fan Speed
	P11: Slave Max Fan Speed
	P12: Temperature Input
	Weekly Timer
	Working Hours Counter
	Save Settings
	Load Settings
	Restore Default Settings
	Contrast
	Debug Page

Sensors

The DCV systems various sensors provide continuous real time feedback monitoring of the ambient air conditions through temperature, humidity, CO_2 or pressure in the occupied space.

When powered in auto mode, the CTRL-DSP displays as follows (Auto mode refers to applications 0-10V, Pressure CO_2, RH and Temperature).



E	DATE: shows the current date
F	APPLICATION: shows the current application
G	MODE: shows auto fan [all modes except manual] or manual position
H	TIME: shows the time
I	Remote Enable: shows remote enable is disabled
K	ESC key: to exit and go back to the previous menu
L	OK key: to enter the selected menu
N	Menu scroll LEFT
O	To go DOWN in menus
P	To go UP in menus
Q	On / Off: power the unit (hold for 5 seconds)
R	FAULT: shows error alarm, refer to error codes

HUMIDITY TRANSMITTER

Accessories

- Output Signal 0 - 10 V DC
- Protection Class IP30
- Good Long Term Stability
- Snap-on Cover
- Resistant to contamination

Overview

The HRT room transmitters for use with our Demand Control Ventilation systems are for measuring humidity or temperature in a room.

Relative Humidity

149-DCV-HRT transmitters have a capacitive thin-film element which gives a signal that is proportional to the relative humidity. The measuring signal is converted by the built-in electronics to output signal 0...10V. The sensor element has rapid response to changes in humidity and excellent long-term stability. The element also has good durability in contaminated environments.

Supply Voltage

For output signal 0...10 V, the transmitter should be supplied with 24 V AC ±10 % or 15...35 V DC. The transmitter has automatic adaptation to the connected voltage.

Accuracy at 20%

Humidity: ±3 % RH, Temperature: ±0.4°C (±0.3°C with temperature sensor PT1000).

Installation

The transmitter should be mounted in a location with good air circulation where it can be expected to give a representative reading. It may be mounted on a wall-box or directly on the wall. To remove the front cover, depress the locking tongue in the lower part of the casing using a 3 mm flat-blade screwdriver. Press and twist the screwdriver and at the same time pull the bottom part of the casing, slide the cover towards the top of the casing to free the hooks holding the upper edge of the front cover.

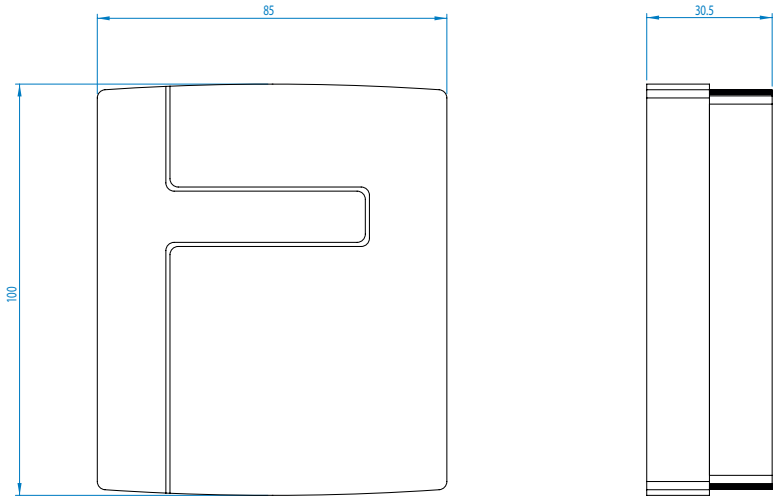
HUMIDITY TRANSMITTER

Accessories

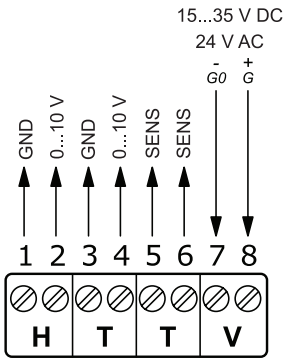
Product Code	Type	Output Signal V	Supply Voltage U_v	Power Consumption W	Electrical Connection mm²	Storage Temperature	Protection Class
149-DCV-HRT	Humidity & Temperature Transmitter	0 - 10	24 V AC ±10 % or 15...35 V DC	< 1 W	Screw terminals max 1.5 (AWG 16)	-25 - 60	IP30

Mode of Operation	Analogue Output	Working Range
Relative Humidity	0...10 V, IL< 1 mA (0...100% RH)	0...50% RH

Dimensions



Wiring Diagram



This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1 and EN 61000-6-3 and carries the CE mark.

PRESENCE DETECTOR

Accessories

- Power Supply 24V AC or DC
- Intended for wall or ceiling mounted
- Unobtrusive design
- Potential-free, changeover relay
- Both relay on-delay and/or relay off-delay, can be individually set

Overview

149-DCV-PIR is a presence detector designed for Demand Control Ventilation systems.

Function

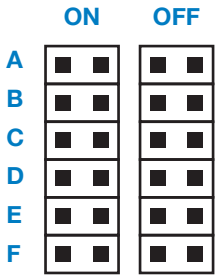
The PIR is a presence detector designed for automatic ventilation control of DCV systems. It saves money and gives higher comfort in premises which require forced ventilation for shorter periods of time, such as conference rooms, assembly-halls etc. The unit provides a changeover relay signal output for start/stop of fan or similar equipment. It can be wall or corner mounted with 110°, 15m detection range.

Range Adjustments

In order to suit different rooms or areas, the detection range of PIR can be adjusted by changing the direction of the sensor. To change the sensor direction, release the screw on the mounting bracket and then carefully move the sensor to the direction desired.

On / Off Delay

The ON and OFF delays are designed to provide smarter energy management of DCV systems. ON delay is the time given to the sensor to certify the occupancy, before it activates the output relay. OFF delay is the time that the relay is activated after the last detection. Both ON and OFF delays can be easily set by placing the jumper head on the corresponding pins as following.



	A	B	C	D	E	F
ON	0s	10s	30s	1min	5mins	10mins
OFF	10s	1min	5mins	10mins	20mins	30mins

Technical Data

Product Code	Infrared Sensor	Power Supply	Detection Range	Output Relay	Consumption	Mounting Height m
149-DCV-PIR	Dual Element	24 ± 2 V AC/DC	15 x 15m at 15°C	24 V DC, 0.2 A max.	5mA @24 V AC	1.8 - 3.6
Product Code	**Mounting Bracket**	**Detectable Speed m/s**	**RFI Immunity**	**Ambient Temperature °C**	**Ambient Humidity RH max.**	**Dimensions mm**
149-DCV-PIR	MB-99	0.1 - 3.0	Av. 20V/m (10 - 1000MHz)	-20- 50	95%	112 x 66 x 45

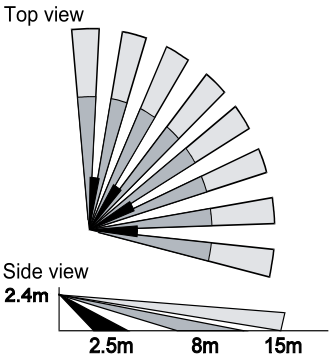
PRESENCE DETECTOR

Accessories

Operation

Standby

After the warm up time expires, the sensor enters into standby mode. The detector will check whether both delays are properly set. If not, the green LED will blink to indicate.



Relay ON Delay

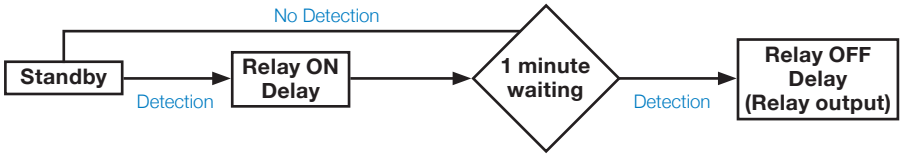
Relay ON delay is the time given to sensor to verify true occupancy before activating the relay output. Any further detection during ON delay will NOT reset the timer.

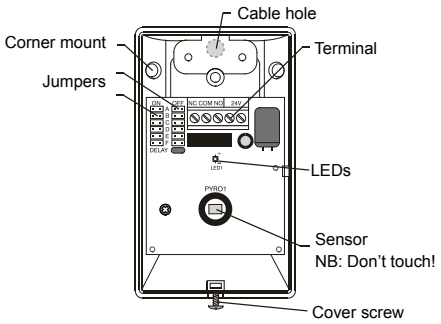
1 Minute Waiting

When Relay ON delay expires, the sensor enters into a 1 minute waiting time. If no detection occurs within 1 minute, the sensor will return to standby mode. If any detection occurs, then relay output will be activated and Relay OFF delay will be started.

Relay OFF Delay

Relay OFF delay is the time of relay activating. Every detection during this period will reset the timer.



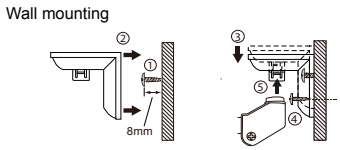


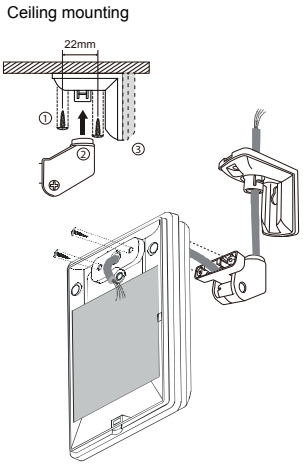
Installation

Do not install where the detector is exposed to direct sunlight or directly above strong sources of heat. Make sure the detection area does not have any obstruction (plants, large pieces of furniture, curtains etc.) which may block the detection.

Installation

1. Mount the base of mounting bracket on the selected position. Lead the cable through the access tunnel of mounting bracket or through the knockout openings (see description-picture page 1).
2. Open the front cover by loosening the locking screw at the bottom. Lead the cable into the unit and assemble the mounting bracket with the unit.
3. Connect the cable to the corresponding terminals according to the instructions below.
4. Replace the front cover and then proceed with the walk test.

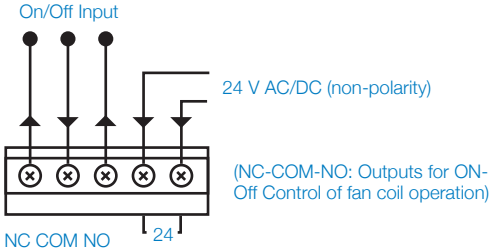




Walk Test

Apply power supply and allow 25 seconds for sensor to warm up. The green LED will blink during warm up period. Walk across the detection zones (invisible) at normal speed. The red LED will blink whenever the sensor detects the motion.

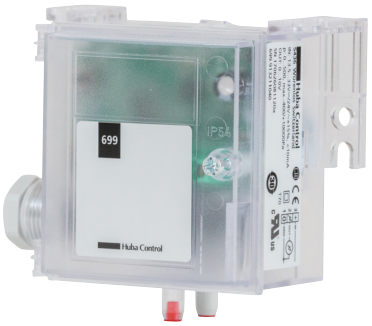
Wiring Diagram



This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1 and EN 61000-6-3 and carries the CE mark.
N.B. System neutral and signal neutral should be separately wired, because of current peaks in the supply wires. Screw terminal: Max. 1.5mm².

PRESSURE TRANSMITTER

Accessories



- Three settable working ranges for each model 100/300/500Pa
- Output signal 0 - 10V
- High level of accuracy and stability
- Models with square root output signal
- Quick and easy mounting

Overview

DPT is a transmitter for use with our Demand Control Ventilation system for measuring differential pressure in air and neutral gases for controlling pressure in HVAC systems.

Function

The transmitter consists of a plastic sensor-housing and a membrane of silicon LSR. The differential pressure affects the membrane which is connected to the sensor element. The element is manufactured with state-of-the art technology with a ceramic beam onto which thick-film resistors have been applied. The pressure on the membrane causes a movement which is transferred to the ceramic beam. Flexing of the beam gives changes in resistance. The changes in resistance are transmitted by means of built-in electronics to an analogue output signal. The measuring element gives a rapid response and a high level of accuracy. The properties of the ceramic element ensure that the transmitter has excellent long-term stability.

Sensor Housing

The sensor housing is made of transparent plastic. The cable input is on the left hand side with cable gland. The cover is closed by a single screw and can easily be detached from the hinges when mounting.

Setting the Working Range

The transmitter has three different working ranges depending on the model. The working ranges are set via two dip switches in the lower left corner of the circuit board according to the table shown below. The supply voltage must be disconnected. You can also change the zero point of the pressure measurement by pressing the button above the dip switches.

1
0

P		
0...500Pa	0	0
0...300Pa	0	1
0...100Pa	1	0

Mounting

The sensor should be mounted vertically using screws in the mounting holes on the back edge. There are also two mounting holes on the upper side of the sensor housing.

Connection Set

A connection set consisting of tubing and pressure outlets can be supplied as accessory to DPT.

PRESSURE TRANSMITTER

Accessories

Product Code	Supply Voltage	Power Consumption	Output Signal V	Load Impedance	Maximum Differential Pressure Pa	Pressure Connection	Cable Connection	Cable	Mounting	Material Sensor	
										Housing	Membrane
149-DCV-DPT	24 VAC + 15/-10 or 18 - 33V DC	10mA (0 -10V)	0 - 10	> 10kohm (0 - 10V)	Up to 500	Connection pipes for 6mm tube	Screw terminals. Cable gland with built-in strain relief	Three wire. Flexible cable is recommended	Vertical with pressure connections downwards	Transparent plastic	LSR (Silicon)

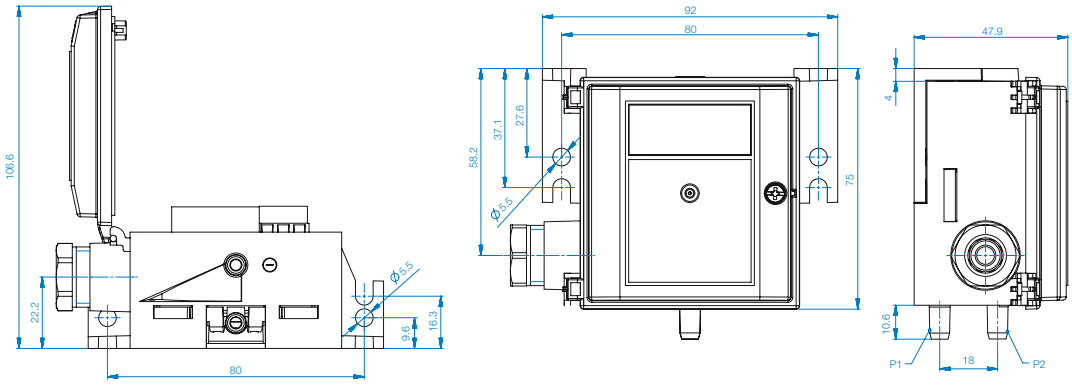
Product Code	Form of Protection	Accuracy		Temperature Dependence °C	Ambient Temperature °C	Storage Temperature °C	Dynamic Response Time ms	Resolution	ANS	DTV-ANSLUTNING
		Linerity	Hysteresis							
149-DCV-DPT	IP54	< +/- 1.0 % fs* for working ranges within 0...100 Pa, for higher working ranges +/- 0.7 % fs*	< +/-1.0% fs	< 0.04% fs	0 - 70	-10 - 70	< 20	Working ranges up to (and including) 100 Pa: < 0.2 % fs*, other working areas: < 0.1 % fs*	Mounting kit with 2m plastic tube & 2 pressure outlets	Pressure connection of metal, angled 90°

Installation Arrangement

1. Recommended installation arrangement: vertical, with pressure connections facing downward, drain of possible condensed water (factory calibration).
2. Horizontal, cover facing downward. Signal approximately 14 Pa higher than actual pressure.
3. Horizontal, cover facing upward. Signal approximately 14 Pa below actual pressure.

Mount the transmitter with minimum 10mm distance to magnetic material. If this is not possible there is a failure of up to minus 1 Pa for transmitters mounted on sheet steel.

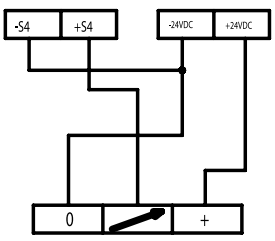
Dimensions



Wiring Diagrams

DTL 0 - 10V

+	Supply Voltage 24V AC / 18 - 33V DC
↗	Output signal 0 - 10V DC
0	System neutral



Dimensions are in mm.

* fs = fullscale, the complete sensor range

This product conforms with the requirements of European EMC standards CENELEC EN50081-1 and EN50082-1 and carry the CE-mark.

ROOM HUMIDISTAT

Accessories

- 1 Step
- High reliability and accuracy
- Protection class IP30
- Setpoint settings can be locked
- Changeover contact 250V AC, 5A

Overview

149-DCV-H1is an electro-mechanichal room humidistat for controlling humidification and/or dehumidification in HVAC systems.

Function

The humidistat uses a synthetic element as sensor medium. The synthetic element stretches as the humidity increases and shrinks as the humidity decreases. These changes are transmitted to a microswitch. The setpoint knob affects the position of the microswitch in relation to the synthetic element. The setpoint can be set at between 35...95% RH.

Synthetic Element

We have developed a new synthetic element that gives a high accuracy at a low cost. In order to eliminate the risk of tampering, the setpoint knob can be locked In order to eliminate the risk of tampering, the setpoint knob can be locked by means of a locking screw under the cover.

Typical applications

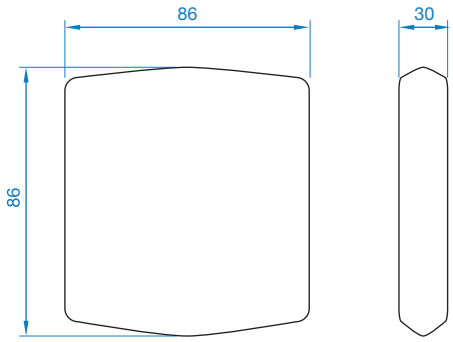
Can be used to control a humidifier or a dehumidifier or for on/off controlling of a fan. Can also be used to alarm when the humidity exceeds or falls below a pre-set level.

Technical Data

Product Code	Material Casing	Ambient Temperature °C	Mounting	Protection Class	Outputs Changeover Contact	Setpoint %	Hysteresis %
149-DCV-H1	Polycarbonate	0 - 40°C	Wall	IP30	250V AC, 5A	35 - 95 RH	+/- 4 RH

ROOM HUMIDISTAT

Accessories



Wiring

Humidification Closing contact between terminals 1 and 2
Dehumidification Closing contact between terminals 1 and 3

Dimensions are in mm.

This Product confirms with the requirements of European LVD standards EN 60730-1:2000+A11+A12, EN 60730-2-13:1998+A1 and carries the CE-mark

TEMPERATURE TRANSMITTER

Accessories

- Output Signal 0 - 10 V DC
- Temperature 0...50°C
- Good Long Term Stability

Overview

Room transmitters for measuring temperature in indoor environments.
Transmitters intended for wall mounting in HVAC systems. The sensor is mounted in the cover-part of the casing. The cover is easy to detach from the back by means of snap-in grips and detachable terminals. This makes mounting easier. Furthermore, no cables have to be disconnected, simplifying service and replacement.

Supply Voltage

The transmitter uses a supply voltage of 24 V AC ±10 % or 15...35 V DC. It automatically detects and adapts to the supply voltage connected.

Temperature Sensor

The unit has a built-in temperature sensor, working range 0...50°C.

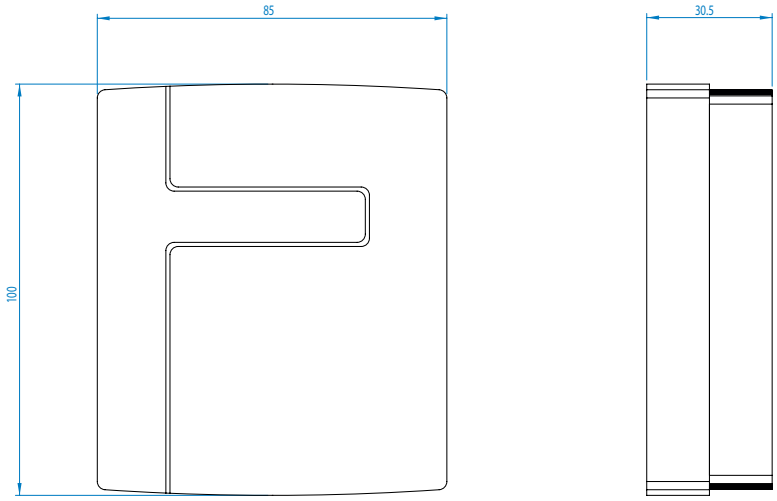
TEMPERATURE TRANSMITTER

Accessories

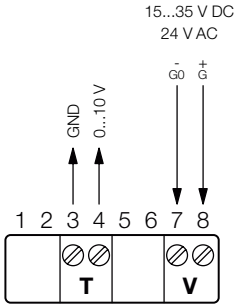
Product Code	Output Signal V	Supply Voltage U_V	Power Consumption W	Transformer Power VA	Electrical Connection mm²	Ambient Temperature	Ambient Humidity	Storage Temperature	Protection Class
149-DCV-TRT	Analogue	24 V AC ±10 % or 15...35 V DC	< 1 W	2	Screw terminals max 1.5 (AWG 16)	0...50°C	10...90 % RH non-condensing	-25 - +60°C	IP30

Analogue Output	Working Range	Accuracy at 20°C
0...10 V, IL< 1 mA	0...50°C	±0.4°C

Dimensions



Wiring Diagram



GND and G0 are internally connected.

This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1 and EN 61000-6-3 and carries the CE mark.

TWINFLOW STDRDCV

Notes

TWINFLOW STDRDCV

Notes

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TWINFLOW STDRDCV

Notes

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