GISSUR
ÁR 6

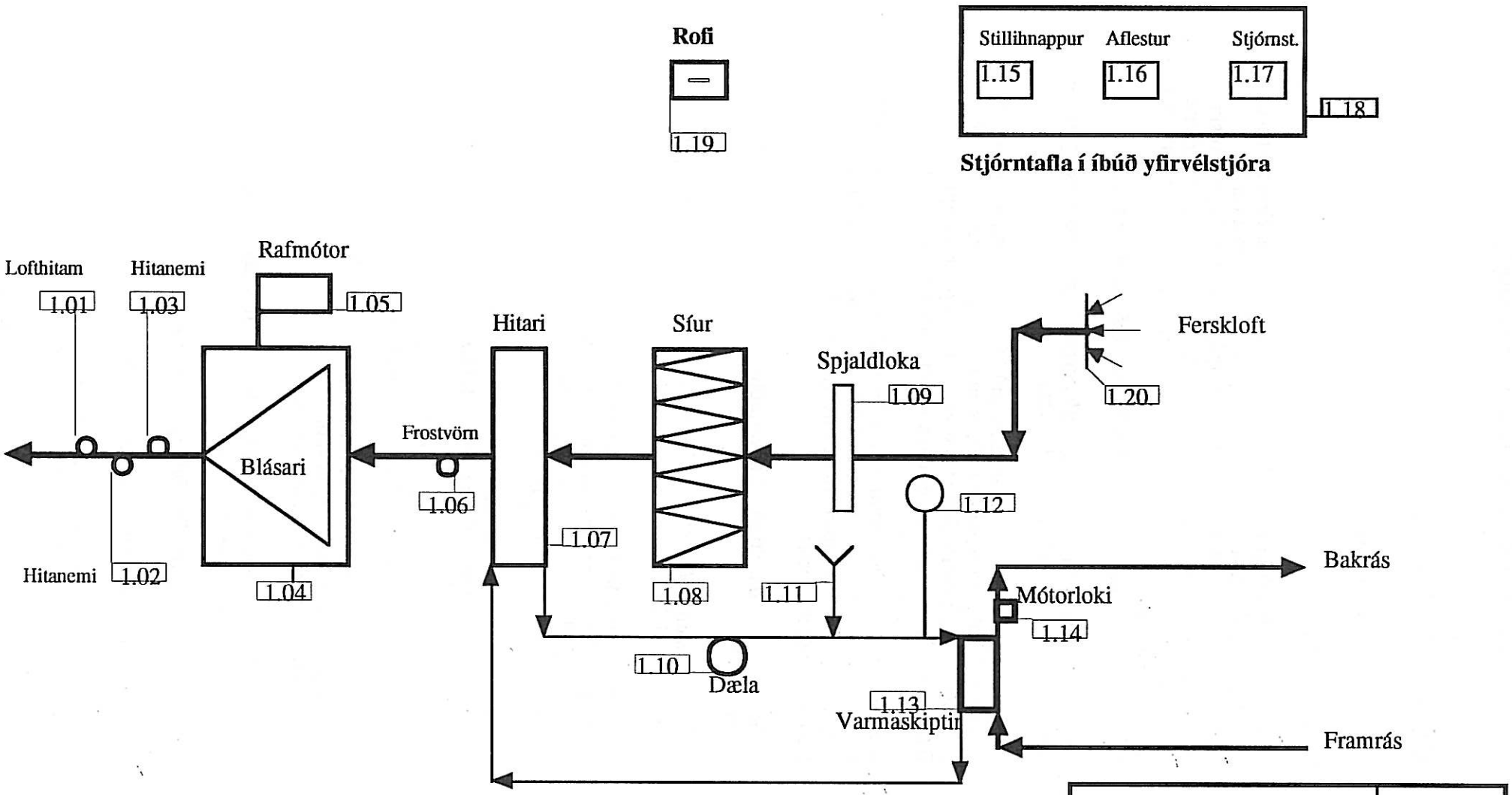
Handbók

fyrir
Hita- og loftræstikerfi

HITA LOFTRÆSTIÞJÓNUSTAN
The H. V. A .C. Service

Sími: 587-4162
Sími: 892-4428

Reykjavík í desember 1998



HEITI VERKS	Dags: 23.12.1998
Hita- og Loftræstikerfi fyrir íbúðir	Teiknað: KO
	Samþ: KO
Gissur ÁR 6 Þorlákshöfn	Verk nr: 1
	Kvarði:

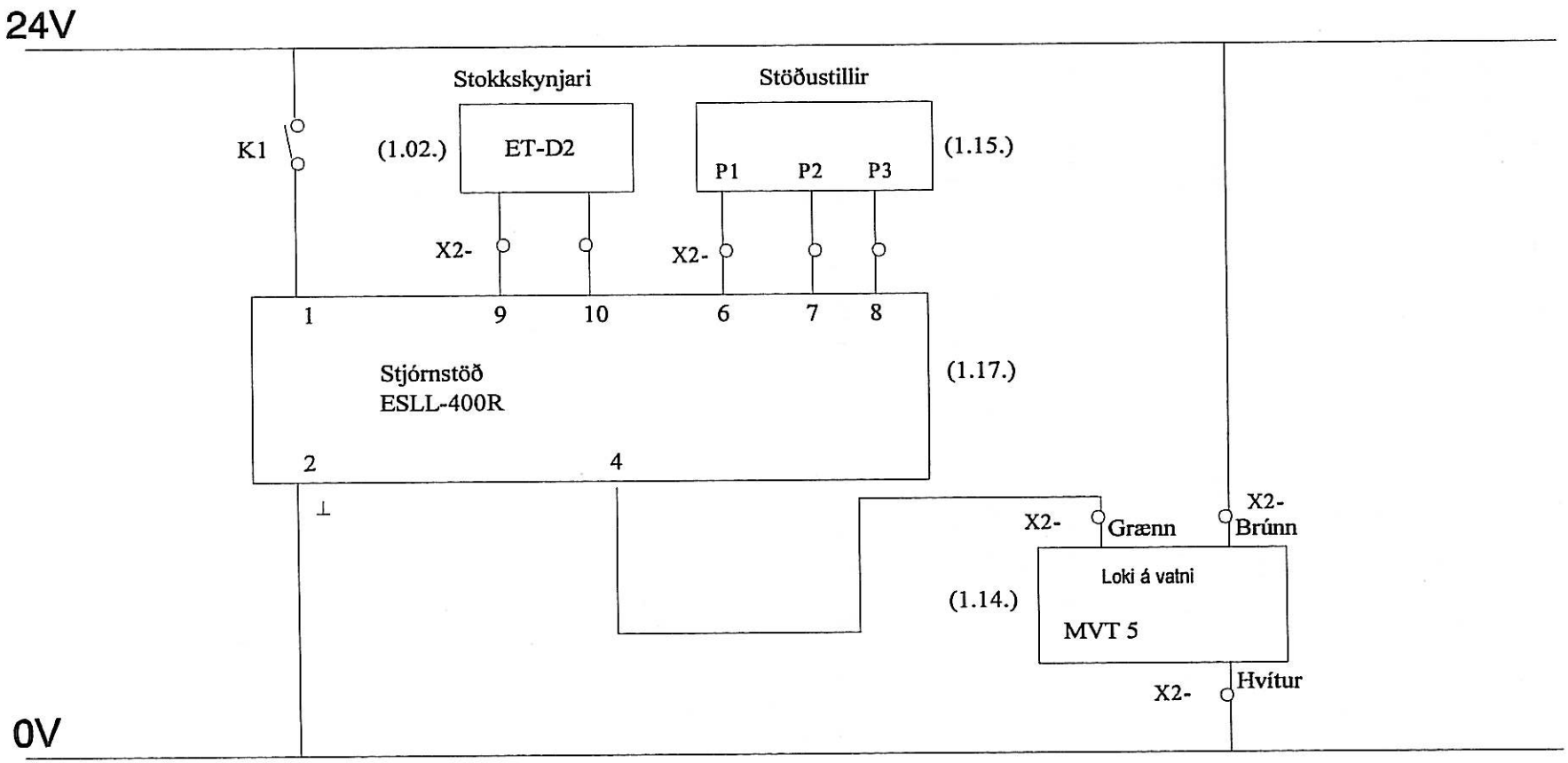
Hita- og Loftræstiþjónustan
Ystabæ 11 110 Reykjavík
Sími: 587-4162 Fax: 587-4162
Farsími: 892-4428 - 852-4428

Lýsing á samvirkni tækja.

Loftræstikerfi nr. 1 er fyrir íbúðir.

NR:	TÆKI:	HLUTVERK:
		Loftræstikerfið er fyrir ferskloft, keyrt á hreinu útilofti. Ferskloftið er dregið með Innblásara (tæki nr. 1.04.) inn um inntaksrist (tæki nr.1.20.) á útvegg og í gegnum loftloku (tæki nr.1.09.), í gegnum síu (tæki nr.1.08.), hitara (tæki nr.1.07.) sem hitar loftið upp í **kjörhitastig 18 gr.** og síðan er því þrýst áfram inn í íbúðir skipverja.Loftið er hitað upp frá frostlagakerfi. **Kerfinu er stjórnað úr íbúð yfirvélstjóra frá (tæki nr.118.).**
1.01.	Lofthitamælir	staðsettur í samstæðu. Sýnir hitastigið á framrásarloftinu eins og það er hverju sinni sem blásið er inn í íbúðirnar.
1.02.	Hitanemi	staðsettur í samstæðu. Skynjar hitastigið í framrásarloftinu og sendir boð til stjórnstöðvar (tæki nr.1.17.) sem sendir þau áfram til mótorloka (tæki nr.1.14.), mótorlokinn leitast við að halda því hitastigi á framrásarloftinu sem beðið er um á stillihnapp (tæki nr.1.15.).
1.03.	Hitanemi	staðsettur í samstæðu. Skynjar hitastigið á framrásarloftinu og sendir boð í gegnum Stjórnstöð (tæki nr.1.17.) til aflestrar í (tæki nr.1.16.), sem sýnir hitastigið eins og það er hverju sinni á framrásarloftinu sem blásið er inn í ibúðirnar.
1.04.	Innblásari	staðsett í samstæðu. Stjórnast af rafmótor (tæki nr.1.05.) og Rofa (tæki nr.1.19.)
1.05.	Rafmótor	staðsettur í samstæðu. Stjórnar Innblásara (tæki nr.1.04.) en stjórnast af rofa (tæki nr.1.19.).
1.06.	Frostvörn	staðsett í samstæðu, í loftrás innan við Hitara (tæki nr.1.07.). Ef lofthitastig fer niður í innstillt gildi, **gerist eftirfarandi:** Innblásari (tæki nr.1.04.) stoppar, Dæla (tæki nr.1.10.) stoppar og mótorloki (tæki nr.1.14.) fullopnar:
1.07.	Hitari	staðsettur í samstæðu. Stjórnast af Dælu (tæki nr.1.10.), Varmaskipti (tæki nr.1.13.).og mótorloka (tæki nr.1.14.).
1.08.	Sía	staðsett í samstæðu. Síar ferskloftið áður en það er hitað upp og blásið inn í íbúðir skipverja. **Stærð 39 x 46 x 4 sentemetrar.**
1.09.	Spjaldloka	staðsett í samstæðu. Með henni er hægt að loka fyrir ferskloftið að samstæðu ef þurfa þikir vegna veðurs, **en þá verður loftræstikerfið óvirkt.**
1.10.	Dæla	staðsett við samstæðu. Gengur alltaf þegar loftræstikerfið er í gangi. Stjórnast af Rofa (tæki nr.1.19.).
1.11.	Áfylling	staðsett við samstæðu. Til áfyllingar fyrir frostlagarkerfi.
1.12.	Jöfnunarkútur	staðsettur við samstæðu. Jöfnunarkútur fyrir frostlagakerfi.
1.13.	Varmaskiptir	staðsettur við samstæðu. Stjórnar hitanum inn á Hitara (tæki nr.1.07.), ásamt Dælu (tæki nr.1.10.) og mótorloka (tæki nr.1.14.).

1.14.	Mótorloki	staðsettur við samstæðu. stjórnast af Stillihnapp (tæki nr.1.15.) í gegnum Stjórnstöð (tæki nr.1.17.).
1.15.	Stillihnappur	staðsettur í stjórntöflu (tæki nr.1.18.). Stjórnar mótorloka (tæki nr.1.14.) í gegnum Stjórnstöð (tæki nr.1.17.) sem fær boð frá Hitanema (tæki nr.1.02.) um hita á framrásarloftinu eins og hann er hverju sinni. Mótorlokinn (tæki nr.1.14.) gefur hita inn á Varmaskiptinn (tæki nr.1.13.), við það hitnar frostlagakerfið og Dæla (tæki nr.1.10.) dælir heitum frostleginum inn á Hitara (tæki nr.1.07.) **Stillist á 18 gráður.**
1.16.	Aflestur	staðsettur í Stjórntöflu (tæki nr.118.) og er til aflestrar á hitastigi á framrásarloftinu sem blásið er inn í íbúðir skipverja, fær boðin frá Hitanema (tæki nr.1.03.), sem staðsettur er framan við samstæðu í framrásarloftinu.
1.17.	Stjórnstöð	staðsett í Stjórntöflu (tæki nr.1.18.). Tekur við boðum frá Hitanema (tæki nr.1.02.) og sendir áfram skilaboð sem Stillihnappur (tæki nr.1.15.) ákveður til Mótorloka (tæki nr.1.14.). Tekur einnig við boðum frá Hitanema (tæki nr.1.03.) og sendir þau til aflestrar í (tæki nr.1.16.).
1.18.	Stjórntafla	staðsett í íbúð yfirvélstjóra. Í Stjórntöflunni eru eftirfarandi tæki: Stillihnappur (tæki nr.1.15.), Aflestur (tæki nr.116.) og Stjórnstöð (tæki nr.1.17.).
1.19.	Rofi	staðsettur í rafmagnstöflu í tækjaklefa. Stjórnar rafmótor (tæki nr.1.05.) og Dælu (tæki nr.1.10.).
1.20.	Rist	Ferskloftsrist staðsett í útvegg Tækjaklefa.



Hitatækni.e.h.f.
Langholtsvegi.109
Sími:588-6070
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Útg.	Dagsetn.		Hönn.	Samþ.
A	Des-98		FMF	

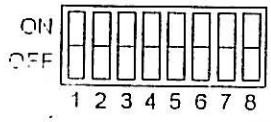
Gissur ÁR 6

Telkn.no

Næsta.telkn

A

RANGE AND ACTION SELECTION

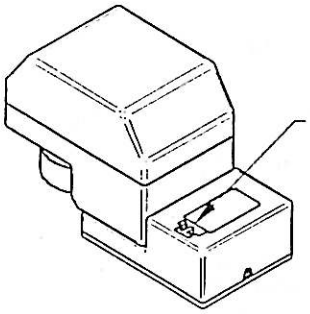


RANGE	DIP NR.
0..10 V	2
6..9 V	3
0..4 V	4
2..10 V	5
4..7 V	6
6..10 V	7
8..11 V	8

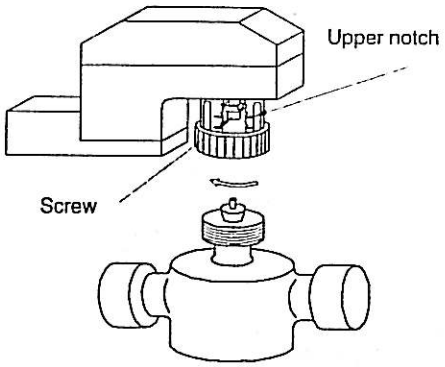
The actuator is supplied set for 0..10 V- signal, direct action. In case a different setting is required:

- Switch on 'ON' position the DIP 2..8 corresponding to the required range
- Direct action: Position DIP N.1 on 'ON'
  Upper notch lowers if signal increases (V.T valve open straight way)
- Reverse action: Position DIP N.1 on 'OFF'
  Upper notch raises if signal decreases (V.T valve closed angle way)

Valve stem direction can be detected by looking through vents by locking nut.

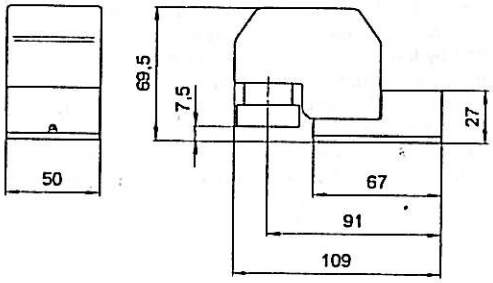


V.T. VALVES AND MVT ACTUATORS COUPLING

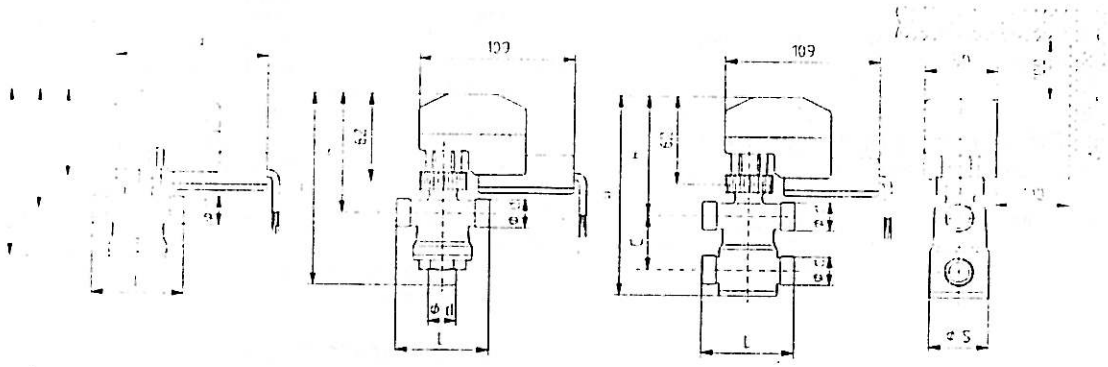


ILL. 1

MVT5 ACTUATOR DIMENSIONS (mm)



MVT5 ACTUATOR + V.T VALVES DIMENSIONS



Valve Part Number	Ø d	L	Ø S	C	H	h	Valve & Actuator weight in Kg
VMT09/10/11/12/13/1	G 1/2	66	42	--	142	85	0.70
VMT2	G 3/4	77	46	--	147	88	0.80
(*) VMT4	G 1 1/4	87	43	--	155	106	0.90
VST11/12/13/1	G 1/2	66	42	--	124	85	0.65
VST4	G 1 1/4	87	43	--	136	106	0.90
VST21/2	G 3/4	77	46	--	131	88	0.75
VTT11/12/13/1	G 1/2	66	42	38	141	85	0.75
VTT21/2	G 3/4	77	46	65	166	88	0.95

This specification may be changed without any prior notice due to design improvements

1ST ISSUE	06/97	2	DBL096E

CAMPINI S.p.A.

Automatic control systems for:
air conditioning/heating/industrial thermal process.

SALES AND SERVICE ORGANIZATION IN:

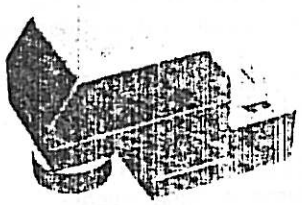
ARGENTINA	GREECE	NEW ZEALAND	SWEDEN	U.A.E.
AUSTRIA	GERMANY	PORTUGAL	SWITZERLAND	U.K.
AUSTRALIA	HONGKONG	SAUDI ARABIA	TAIWAN	U.S.A.
BELGIUM	KOREA	SINGAPORE	THAILAND	
CANADA	IRAN	SOUTH AFRICA	TURKEY	

Terminal unit and zone valve actuators

MVT5

CE

PART NUMBER	SUPPLY	CONTROL SIGNAL
MVT5	24 V~	proportional 0..10/6..9/0..4/2..10 4..7/6..10/8..11 V-



APPLICATION

MVT5 actuator is designed to provide proportional control of V.T valve bodies in fan-coil units, solar plants, small reheaters and recoolers using hot and/or cold water

OPERATION

MVT5 actuator is a bidirectional electric actuator and it is provided with a microprocessor card for proportional signal control. The movement is produced by the rotation of a screw spindle which is driven in both directions by a synchronous motor through a set of gears. A magnetic coupling limits the torque of the gear assembly and the driving force of the actuator.
A cut-off function is provided, so the motor drive is disconnected whenever one of the stroke ends is reached, thus ensuring highest energy saving and a longer life-time to the actuator.
MVT5 is also provided with a self-calibration device of the end stroke; this is started at power-on and every 10 working hours.

MANUFACTURING CHARACTERISTICS

The actuator consists of a plastic housing which contains motor, gear set, magnetic coupling, spindle to operate valve stem, coupling ring M30x1.5 to assemble the actuator on the valve body.
The electronic card is fitted in, inside a plastic housing, on the lower part of the base.
The actuator is provided with a cable for 3-wire electric connection.
The actuator requires no maintenance.

POSSIBLE COMBINATIONS & CONNECTIONS

MVT5 actuator has to be used with Controlli valves for fan-coil units VST, VMT, VTT.
It can be connected to any controller having a V- output signal corresponding to indications on 'Technical Characteristics' paragraph and especially to Controlli 500 Line controllers, Digitroll 2000 and 5000.

MOUNTING

MVT5 actuator may be mounted in any position but the one shown below.
Before the actuator is fixed to the valve, the protective cap must be removed from valve body. Make sure that the actuator is in the open position, actuator stem at upper notch on the bracket (factory supplied position) before fixing the actuator to the valve body.
Should a different position be found, remember that - in order to assemble correctly the actuator on the valve - the valve internal spring will have to be forced down and the threaded ring M30x1.5 will have to be tightened on valve body thread. (See ill. 1).

Mounting positions to be avoided:

TECHNICAL CHARACTERISTICS

Power supply	24 V a.c. + 10 - 20%
Frequency	50/60 Hz
Power consumption	1 VA
Noise	< 30 dB (A) according to ISO3745
Control mode	proportional range: 0..10/6..9/0..4/2..10/4..7/ 6..10/8..11 V-
Action	direct/reverse
Max stroke	6.5 mm
Stem stroke speed	30 sec/mm at 50 Hz 25 sec/mm at 60 Hz
Stroke time	165 s for V.T Controlli valves with 5,5 mm stroke
Stem force	≥ 200 N
Protection standard	IP 40 CEI EN 60529
Insulation class	III (IEC 950)
Cable	3-wire 1.5 m long (CEI 20-22/II)
Cable material	PVC fire resistant according to IEC 332-3 class C
Fire resistance	UL94 class V-O
Temperature	
operating	0...60° C
storage	-25...65° C
Weight	0.25 Kg

MVT5 actuator complies with following EMC 89/336 standards:
EN 50081-1 for emission
EN 50082-1 for immunity

WIRING CONNECTIONS

White = common
Green = V- control signal
Brown = 24 V~ 50/60 Hz

Make wiring connections according to existing standards.

1ST ISSUE	06/97	1	DBL095E

S.p.A.

ISO 9002

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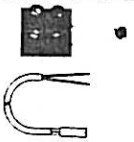
Description

NTC sensors and accessories for use with complete range of ET.. Electronic Thermostats/Thermometers & ES.. Temperature Controllers. Sensors may be connected using 0.75mm² cable. Keep away from power cables and units which may cause interference. Screened cable is recommended.

Temperature °C:	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
Resistance KΩ :	288.6	217.7	165.6	126.8	97.9	76	59.5	47	36.8	29.3	23.5	18.9	15.3	12.4	10.1	8.3	6.9	5.7	4.7	3.9	3.3	2.8

NTC SENSORS FOR ET.. THERMOSTATS / THERMOMETERS, ES.. TEMPERATURE CONTROLLERS & ENERGY MANAGEMENT

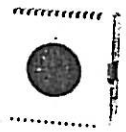


ET-B2 Bead sensor — With 2 way terminal strip.

ET-C2 Cable sensor — 1m long x 7mm dia. (can also be used for strap on)

ET-W2 Outside sensor — Weatherproof IP65. 85dia. x 57 depth M20 conduit entry.

ET-R2 Room sensor — Can be mounted on square or round outlet box. W84 x H84 x D36.
ET-R2/2 Room sensor — As ET-R2 (2 sensors enclosed for averaging)



ET-RP3 Room sensor — With knob adjustment approx. ±4°C above and below setting of main set point knob. Can be mounted on square or round outlet box. W84 x H84 x D48.

ET-RP3/RS Setpoint adjuster — Approx. ±4°C above and below setting of main set point knob. For use with remote sensors: ie. ET-B2, C2, W2, R2, D2, I2, H2

Position internal link on ET-RP3 & ET-RP3/RS as required

ES*9 • •	ESR/D/I/P-950/2	Temperature controller 0-10vdc 25/95°C
ES*4 • •	ESR/D/I/P-400/2	Temperature controller 0-10vdc -10/+50°C & 0-50°C
ET*12 • •	ET-1/2/4/6/812	Electronic thermostat -10/+40°C
ET*14 • •	ET-1/2/4/6/814	Electronic thermostat 35/95°C

ET-D2 Duct sensor — Probe length 160mm. W68 x H92 x D62. Enclosure IP43.

ET-I2 Immersion sensor — With copper pocket. ½" BSP x 120mm. Enclosure IP43.
ET-I2/ST Immersion sensor — With stainless pocket. ½" BSP x 120mm. Enclosure IP43.

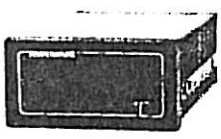
ET-H2 Black bulb sensor — For radiant tube heaters. W68 x H92 x D62 + depth of bulb 24mm.
ET-H2/2 Black bulb sensor — As ET-H2 (2 sensors enclosed for averaging)

Conduit entry. Enclosure IP43.

FRONT PANEL MOUNTING ADJUSTER FOR ET.. ELECTRONIC THERMOSTATS

ET-P40 Potentiometer and knob -10/+40°C. Use with ET..BR models.
ET-P95 Potentiometer and knob 35/95°C. Use with ET..BR models.

DIGITAL DISPLAY FOR ET.. ELECTRONIC THERMOSTATS



ET-DD4 Digital display -10/+40°C. 230VAC supply. Front panel mounting. Dim. 96 x 48 x 125 Cutout 91W x 44H
ET-DD8 Digital display 35/95°C. 230VAC supply. Front panel mounting. Dim. 96 x 48 x 125 Cutout 91W x 44H

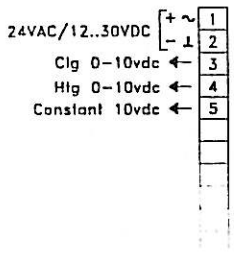
Optional Add Suffix: L24 = 24VAC supply L110 = 110VAC supply

FOR STAND ALONE THERMOMETERS SEE SEPARATE DATA SHEET.

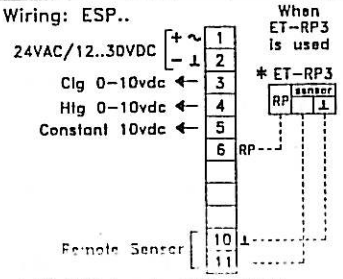
Sensors may be connected using standard 0.75mm² cable. Keep away from power cables and units which may cause interference. Screened cable is recommended.

ESR-400/ESR-400V/ESD-400/ESD-950/ESI-400/ESI-950/ESP-400/ESP-950

Wiring: ESR.. ESD.. ESI..



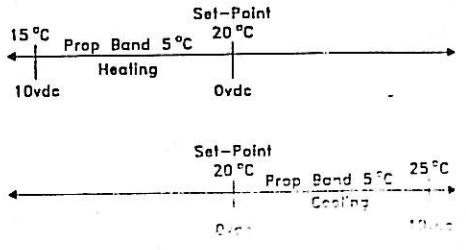
Wiring: ESP..



*ET-RP3 has in built sensor

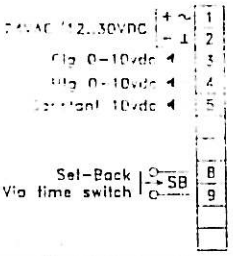
Settings:

Example: Single stage output heating or cooling

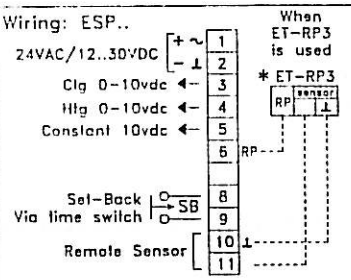


ESR-400N/ESP-400N

Wiring: ESR..

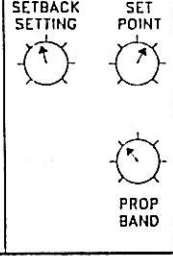


Wiring: ESP..

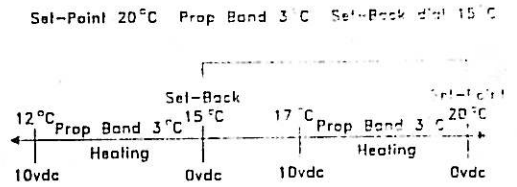


*ET-RP3 has in built sensor

Settings:

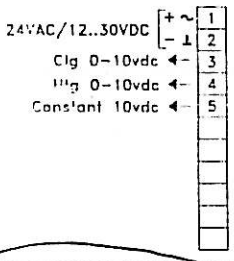


Example: Single stage output heating with setback

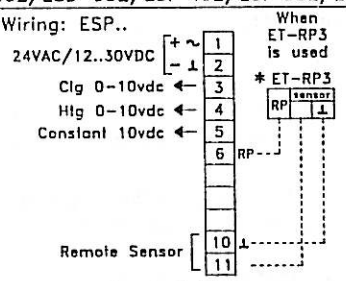


ESR-402/ESR-402V/ESD-402/ESD-952/ESI-402/ESI-952/ESP-402/ESP-952

Wiring: ESR.. ESD.. ESI..

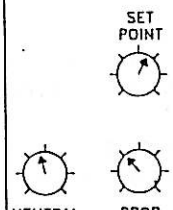


Wiring: ESP..

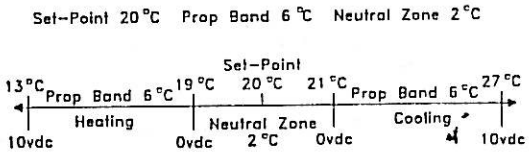


*ET-RP3 has in built sensor

Settings:

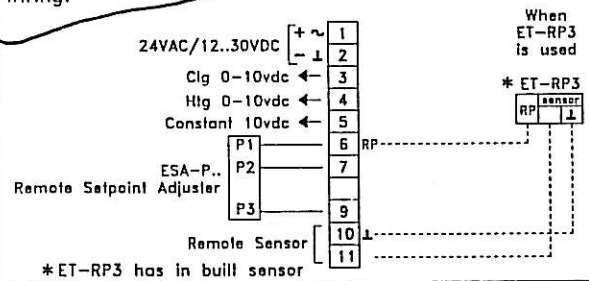


Example: 2 stage output heating and cooling



ESP-400R/ESP-950R

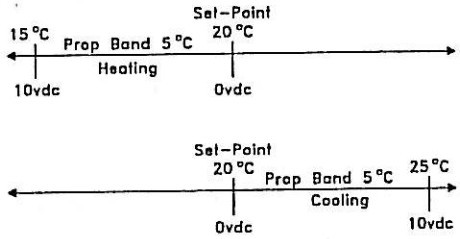
Wiring:



*ET-RP3 has in built sensor

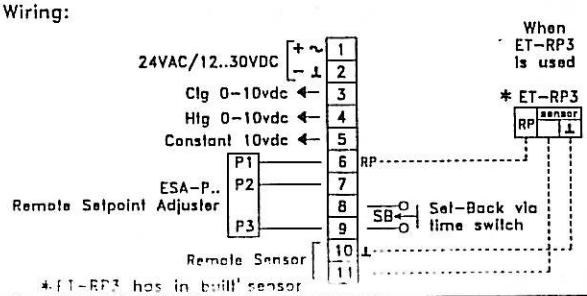
Settings:

Example: Single stage output heating or cooling



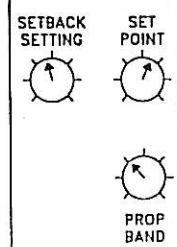
ESP-400RN

Wiring:

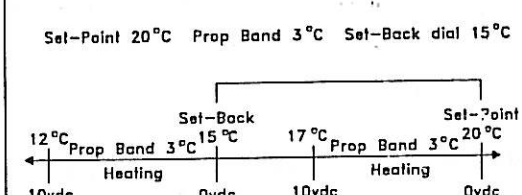


*ET-RP3 has in built sensor

Settings:

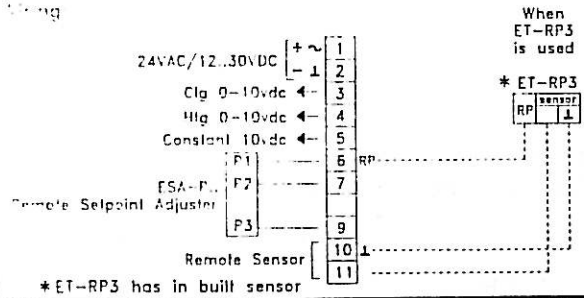


Example: Single stage output heating with setback



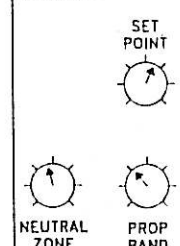
ESR-402R/ESP-952R

Wiring

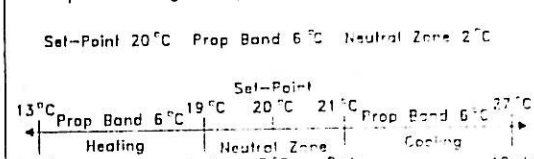


*ET-RP3 has in built sensor

Settings:

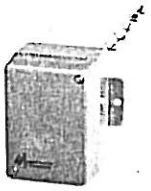


Example: 2 stage output heating and cooling



H.V.A.C. • B.M.S. CONTROLS

EC/M..
Capillary Thermostat
1-2-3-4 Stages
Auto/hand reset



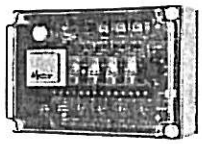
EC..D
Duct Thermostat
1 Stage
Auto/hand reset

EFP..
Freeze Protection Thermostat

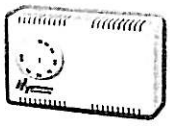
ESS..
Strap on Thermostat

TR11../ EMR..
RoomThermostat
1-2-3-4 Stages

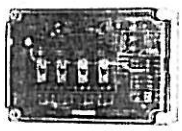
EBS..
Immersion Thermostat
Single/dual function
Auto/hand reset



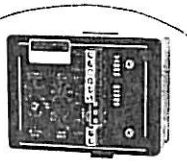
ET..
Electronic Thermostat
1-2-3-4-6-8 Stages



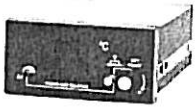
EHR../ EHD..
Humidistat / Transmitter
Room / Duct
1-2 Stages/0-10v/4-20mA



ES2..
Electronic Step Controller
Single or dual 0-10vdc input
4-6-9 Stages



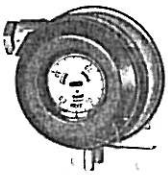
E.S.P..
Proportional Control
0-10vdc output



ET-D..
Electronic Thermostat
Digital display
Front panel mounted

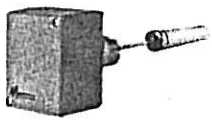
EP..
Pressure Switch
Water, steam etc.

EP..
Water Diff Pressure Switch



EDA../ EDT..
Air Diff. Pressure
switch/Transmitter

EWT../ EWPT..
Pressure transmitter
Water, Steam etc.
Output 0-10vdc or 4-20mA

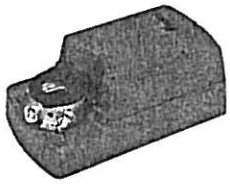


ELL..
Liquid Level Switch
1" BSP connection

ELF./ EAA..
Water / Air flow switch

RW230/24N
Duct Smoke Detector

EY..
Thyristor Control
3.5 to 36KW
Single - 3 Phase



E08../E16../E24../EM..
Damper / Value Motor
2 & 3 point Control
0/2-10vdc 0/4-20mA

MK..
Seat / Lift & Lay Valve
15mm to 80mm

RD..
Butterfly Valve
25mm to 150mm

Rotary Valve
2 & 3 Way
15mm to 150mm

BMS.. Sensors
System Compatibility:-
Andover
Honeywell
Next
Satchwell
Siebe
Serck
Trend
York

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Amberley Way, Hounslow, TW4 6BH, Great Britain.

CONTROLS • TRANSMITTERS • SENSORS • VALVES • ACTUATORS