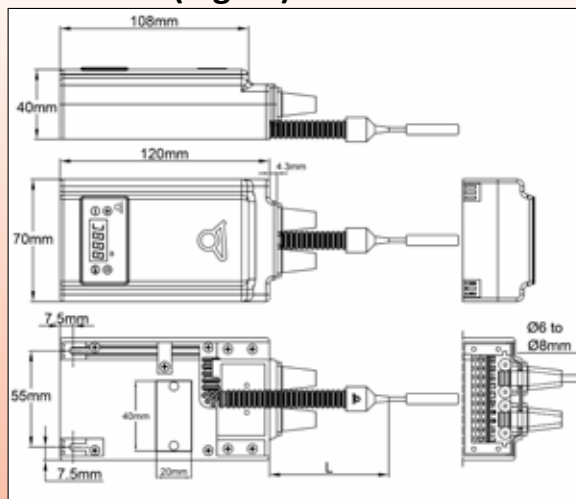# IP54, Y5 Hand held or wall mounting digital controller

Distance temperature measurement (digital)

This control box has the smallest footprint and the lowest price of the Y range with waterproof enclosure. It has a modern and aesthetic design, and the same professional concept than other products of this range.
Because of their small size (120 x 70 x 40 mm), these controls can be wall mounted with 2 screws 55 mm distance, hand held or just simply laid on the working table.
Enclosure: PC-ABS, black color,small footprint , can be hand held of wall mounted
Ingress protection rating: IP54 (IEC 60529)
Mechanical impact resistance: IK05 (EN 62262) Digital display not included.
Flammability: UL94-V0
Electrical connection: on a closed screw terminal connection block cavity located backside, for wire gauges up to 2.5 mm². Cables are secured by a saddle retainer, and grommets. Ground, neutral and phase can be connected in input and output.
Power inlet and outlet: through grommets for cables dia. 6 to 8 mm. Over-molded cables on request (MOQ apply)
Adjustment: by up, down and set keys
Display: selectable in °C or °F (4 digits)
Power supply: 90-250VAC, 50 or 60Hz
Temperature control action: ON-OFF or PID with auto-tune function
Differential: adjustable when on-Off action is selected
Mounting: Wall mounting, for screws dia. 4 to 6 mm, 55 mm distance
Identification: Location backside for 20 x 40 mm identification label, adhesive or riveted
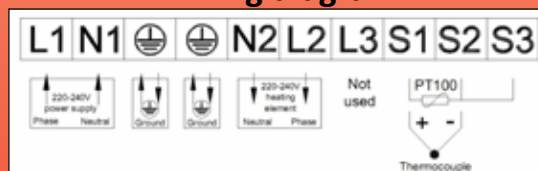**Electrical contact:** Relay output, 10A 250V AC res (15 A120V AC). Open on rise or close on rise action can be selected
Temperature sensor: This control can be supplied with or without sensor. The cable can be protected by a plastic flexible corrugated tube.
This controller is multi sensor type, user settable with the following input choice:

Parameters	Sensor	Temperature range (°C)
t	Type T Thermocouple	-200~400
J	Type J Thermocouple	-200~700
E	Type E Thermocouple	-200~900
K	Type K Thermocouple	-200~1300
r	Type R Thermocouple	-50~1600
S	Type S Thermocouple	-50~1600
b	Type B Thermocouple	350~1800
W	Type WRE Thermocouple	0~2300
Cu50	Cu50	-50.0~150.0
Pt100	P100	-199~600
Pt10.0	P10	-199.9~600.0

Wiring diagram

Main references without cords*

Main features	Reference
Without temperature sensor	Y5F090A0000NUDF2
With PT100 RTD, 5 x 30 mm SS probe, 2 m protected cable	Y5FR9BA0000NUDF2
With PT100 RTD, 5 x 30 mm SS probe, 2 m un- protected cable	Y5FR9CA0000NUDF2
With K thermocouple, 5 x 30 mm SS probe, 2 m protected cable	Y5FK9BA0000NUDF2
With K thermocouple, 5 x 30 mm SS probe, 2 m un-protected cable	Y5FK9CA0000NUDF2

* Reference with Male Euro 1m H05-VVF-3G1 cord+ no connector euro1m H05-VVF-3G1 cord: replace 0000 by EJHJ
Reference with 2 euro cords 1m H05-VVF-3G1 without connector or plug: replace 0000 by HJHJ
Reference with UL SJT 3 x AWG16, 1m Male cord + SJT 3 x AWG16, 1m Female cords: replace 0000 by UJVJ
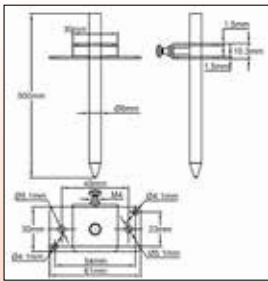Reference with Male UL SJT 3 x AWG16, 1m cord + no connector UL SJT 3 x AWG16, 1m cord: replace 0000 by UJSJ
Reference with 2 UL SJT 3 x AWG16 1m cords without connector or plug: replace 0000 by SJSJ

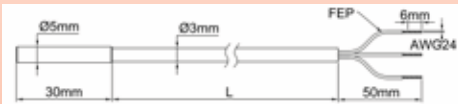E–Mail: info@ultimheat.com Web: www.ultimheat.com

Stopper pocket for liquid temperature measurement inside bottles, carboys and other containers. Dia. 8 mm, length adjustable from 100 to 500 mm.

Reference	66DI08500FL

Standard temperature sensors
PT100

Reference	Class	Cable length	Applications
TSR50030I2000AK6	A	2000 mm	Remote sensing
TSR50030I2000BK6	B	2000 mm	Remote sensing
TSR50030I0070AK6	A	70 mm	Room temperature sensing
TSR50030I0070BK6	B	70 mm	Room temperature sensing
TSR50030I0150AK6	A	150 mm	Room temperature sensing
TSR50030I0150BK6	B	150 mm	Room temperature sensing

Temperature range: -50 to 550°C (-60 to 1020°F) on the ceramic substrate, but temperature in use limited to 200 ° C due to the FEP connecting cable
Temperature curve: EN 60751 (100 ohms @ 0°C, 138.5 Ohms @ 100°C)
Accuracy and tolerances: (according to EN 60751)
Class A, ±0.15°C @ 0°C; (±0.06 Ω @ 0°C)
Class B, ±0.3°C @ 0°C. (±0.12 Ω @ 0°C).
Protection pocket: Stainless Steel 304, dia. 5mm x 30 mm
Temperature range: -50C, +200°C
Connection cable:
• 3 wires, 0.35 mm², FEP insulation + silver-plated copper braid + FEP, temperature resistance 200°C, external diameter 2.7 mm (0.127").
• Ends: stripped
Polarity: The two red wires are connected together at their welded junction to one of the chips ceramic substrate terminal and the white wire is connected to the other terminal.

K Thermocouple

Type 1	Type 2	Type 3

Temperature curve: according to EN 60584-1 and IEC 584-1
Accuracy and tolerances: Class 2 according to EN 60584-1 and 2, ±2.5°C within -40 °C and 333 °C
Polarity (according to DIN 43714): red = positive, blue= negative

Reference	Probe type	Probe temperature range	Cable	Type
TPR00060W10002F4	bare	-50+200°C	2 x 0.35mm², 200°C FEP insulated L= 1m	1
TPR00060W20002F4	bare	-50+200°C	2 x 0.35mm², 200°C FEP insulated L= 2m	1
TPR60050I10002E4	SS 304 dia. 6mm x 50 mm	-50C, +200°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L = 1 m	2
TPR60050I20002E4	SS 304 dia. 6mm x 50 mm	-50C +200°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L = 2 m	2
TPR20200R20002E4	Refractory SS, dia. 2 mm L1= 200 mm sheathed probe	-40+800°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L2 = 2 m	3
TPR20400I20002E4	Refractory SS, dia. 2 mm L1= 200 mm sheathed probe	-40+800°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L2 = 2 m	3

Options

Standard version: grommet cable output for cables from 4 to 8.6 mm OD

SJT 3 x AWG16 cord, length 1m, with 15A UL receptacle

SJT 3 x AWG16 cord , length 1m, with 15A UL plug

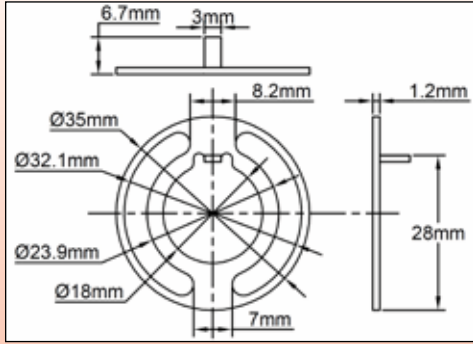SJT 3 x AWG16 cord, length 1m, without plug

H05VV-F 3G1.5 cord, length 1m, with Euro plug

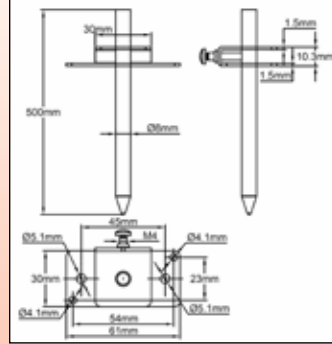H05VV-F 3G1.5, length 1m, cord without plug

Accessories and options

Accessories

Knob high/ low limit stop setting.
Can be used on mechanical thermostat or electronic thermostat types

Reference	6YBUR001

Stopper pocket for liquids temperature measurement inside bottles, carboys and other containers. Dia 8 mm, length adjustable from 100 to 500 mm. Not usable on room temperature measurement types.

Reference	66DI08500FL

Options

Standard version: grommet cable output for cables from 4 to 8.6 mm OD

SJT 3 x AWG16 cord, length 1m, with 15A UL receptacle

SJT 3 x AWG16 cord , length 1m, with 15A UL plug

SJT 3 x AWG16 cord, length 1m, without plug

H05VV-F 3G1.5 cord, length 1m, with Euro plug

H05VV-F 3G1.5, length 1m, cord without plug

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

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