## FULL TOUCH – XH78T



| PIN | Label | Description | PIN | Label | Description |
|---|---|---|---|---|---|
| 12 | 4-20mA GND | Ground for 4-20mA sensor | 20 | AGND | Ground for digital inputs and remote display |
| 13 | 4-20mA +VCC | Power supply for 4-20mA sensor | 21 | D.I.2 | Digital input 2 |
| 14 | GND | Ground for RS485 serial port | 22 | 4-20mA INP | Analogue input for 4-20mA sensor |
| 15 | RS485- | Negative terminal for RS485 (-) serial port | 23 | AGND | Ground for analogue and digital inputs |
| 16 | RS485+ | Positive terminal for RS485 (+) serial port | 24 | Pb3/D.I.1 | Analogue input 3 (temperature only) / Digital input 1 |
| 17 | GND | Ground for analogue output 0-10Vdc | 25 | Pb2 | Analogue input 2 (temperature only) |
| 18 | 0-10VDC | Analogue output 0-10Vdc | 26 | AGND | Ground for analogue and digital inputs |
| 19 | REP | Remote display | 27 | Pb1 | Analogue input 1 (temperature only) |

**Manuals on Dixell website:**



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## SAFETY INFO

- This manual is part of the product and should be kept near the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.
- Dixell Srl reserves the right to change the composition of its products, even without notice, ensuring the same and unchanged functionality.
- In case of failure or faulty operation contact the local distributor or "Dixell S.r.l." with a detailed description of the fault.
- The instrument must not be opened.
- Check the application limits and the correct power supply voltage before proceeding.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to avoid condensation
- Warning: disconnect the power supply and all other electrical connections before any kind of maintenance.
- Observe the maximum current value which can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, loads and the power supply are separated and far enough from each other, without crossing or intertwining.

## USER INTERFACE

| SCREEN | APPEARANCE | SCREEN | APPEARANCE |
|---|---|---|---|
| Home |  | Status Visualization |  |
| Virtual Keyboard |  | Set Point Menu | SEt |
| Programming Mode | PrG | Parameter Menu - ALL | ALL |

| SCREEN | APPEARANCE | SCREEN | APPEARANCE |
|---|---|---|---|
| Parameter Menu - X9 | - - - | Parameter Menu - Groups | GrP |
| Upload Parameters | UPL | Download Parameters | doL |
| Device Locked | LoC | Info Menu | inF |

| SCREEN NAME | DESCRIPTION |
|---|---|
| Home | Show temperature value, measurement unit and active alarms only. It is the first screen after power on or after exit from other status. |
| Status Visualization | This screen shows activated functions and regulation outputs (compressor, ventilators) overlapped with temperature and/or humidity value |
| Virtual Keyboard | This screen shows available functions. Activated function will blink when this screen is visualized. |
| Setpoint menu | This screen enables the modification of setpoints: **St1** for temperature, **SH1** for humidity |
| Programming Mode | This screen enables the modification of parameters: **ALL**, **GrP** or "**X9**" mode can be used. |
| Hotkey Management | **UPL** = upload parameters from device to HOTKEY, **doL** = download parameters from HOTKEY to device |
| Info Menu | To scroll all I/O variables and status (probes, digital inputs, digital outputs, etc.) |
| Device Locked | V-Swipe from Home screen to lock or unlock the device |

## USER INTERACTION

| HOME NAVIGATION | SET POINT TEMPERATURE | PROG MENU | PROG MENU - ALL |
|---|---|---|---|
| -18.3 ℃ | SEt | PrG | ALL |
| H-SWIPE | TAP & HOLD ANYWHERE | TAP & HOLD ANYWHERE | TAP & HOLD ANYWHERE |
| (virtual keyboard) | St1 | ALL | St1 |
| H-SWIPE | TAP & HOLD ANYWHERE | H-SWIPE | H-SWIPE |
| SEt | -14.0 ℃ | GrP | LS |
| H-SWIPE | V-SWIPE | H-SWIPE | TAP & HOLD ANYWHERE |
| PrG | -15.0 ℃ | PAS | -14.0 ℃ |
| H-SWIPE | TAP & HOLD SET TO SAVE | H-SWIPE | V-SWIPE |
| inF | SH1 | - - - | -24.0 ℃ |

| GESTURE | HOW-TO | DESCRIPTION |
|---|---|---|
| ONE TAP | Press a specific area of the screen with a finger for 1 sec | **Switch ON / Switch OFF:** when in Virtual Keyboard, use this to turn on/off a specific function. When in Programming mode, use this to select a parameter or a parameter value. |
| TAP and HOLD | Press anyplace of the surface with a finger for 1 or 3 sec (depending on parameter **bPt**) | **Enter / Save:** use this to enter programming mode or parameter menu and to save modifications. When in Virtual Keyboard, use this on the "ONOFF" to switch OFF and ON the device. |
| H-SWIPE | Drag a finger across surface, from left to right or from right to left | **Browse:** use horizontal swipe (right to left or left to right) to browse through HOME, Virtual Keyboard and Info View. When in Programming menu: use horizontal swipe to browse through parameter menu. |
| V-SWIPE | Drag a finger across surface, from top to bottom or from bottom to top (overlapping only one of the digits) | **Modify:** use vertical swipe (from top to bottom or bottom to top) to change a parameter value. |

# TECHNICAL SPECIFICATIONS

| FEATURES | DESCRIPTION | | |
|---|---|---|---|
| Housing | Self-extinguishing PC/PC+ABS | | |
| Dimensions | Front 38x80 mm; case depth 81mm | | |
| Mounting device | Panel, 71x29mm panel cut-out | | |
| Degree of Protection | **NEMA – UL 50e** | Indoor use only, type 1 enclosure | |
| | **IP-IEC/EN 60529** | Front panel: IP66 | Rear Housing: IP20 |
| Power Supply | 100 to 240VAC±10%, 50/60Hz | | |
| Overvoltage Category | II | | |
| Rated Power | 100-240VAC: 3VA | | |
| Rated Impulse Voltage | 2500V | | |
| Display | White display, LED type, 3 digits with decimal point and multi-function icons | | |
| Buzzer | Internal, always present | | |
| Software Class | A | | |
| Terminal blocks / Terminal Connections | Plug-in or screw terminal block, wire section between 0,5 and 2,5 mm2<br>Max tightening force: 0.3 N/m for 3,5mm pitch, 0.4 N/m for 5,0mm pitch | | |
| Data Storing | **Real Time Clock:** Data maintenance up to 6 months with lithium battery.<br>**Other parameters:** internal flash. | | |
| Type of Action | 1.B | | |
| Pollution Degree | 2, non-condensing humidity | | |
| Ambient Operating Temperature and Humidity | **IEC/EN** | 0T55°C; 20-85 rH% (non-condensing humidity) | |
| | **UL-CAN/CSA** | -20T55°C; 20-85 rH% (non-condensing humidity) | |
| Shipping and storage temperature | -40T85°C; 20-85 rH% (non-condensing humidity) | | |
| Resistance to Heat | UL 94 V-0 | | |
| Measurement range | **NTC:** -40T110°C, resolution 0.1°C or 1°C (selectable); **PT1000:** -100T150°C, resolution 0.1°C or 1°C (selectable); **PTC:** -50T150°C, resolution 0.1°C or 1°C (selectable)<br>*4-20mA: 0.0 to 100.0% RH; resolution 0.5% RH with Dixell probe models "XH20P"* | | |
| Accuracy | NTC, PTC, PT1000: ±1% compared to the full scale<br>4-20mA: ±1% compared to the full scale | | |
| Inputs | Up to 4 NTC, PTC or PT1000 (configurable); Up to 2 voltage free contacts | | |
| | A 3-wire analogue input 4-20mA with onboard power supply; Terminal 2: max supply voltage = 12Vdc; max supply current = 25mA | | |

| Relay Outputs | | Nominal | UL | IEC |
|---|---|---|---|---|
| | oA1 | SPST 16A, 250VAC | Resistive load 11A (NO), 240Vac, 30k cycles;<br>Motor load 10FLA/60LRA (NO), 240Vac, 30k cycles;<br>Pilot Duty B300 (NO), 6k cycles | 10(4)A (NO), 240Vac, 100k cycles |

| FEATURES | | | DESCRIPTION | |
|---|---|---|---|---|
| Optional | oA2 | SPDT 16A, 250VAC | Resistive load 11A (NO), 240Vac, 30k cycles;<br>Motor load 10FLA/60LRA (NO), 240Vac, 30k cycles;<br>Pilot Duty B300 (NO), 6k cycles | 10(4)A (NO), 240Vac, 100k cycles |
| | oA3 | SPST 10A, 250VAC | Resistive load 4A (NO), 230Vac, 100k cycles;<br>Pilot Duty C300 (NO), 100k cycles | 4A (NO), 240Vac, 25k cycles |
| | oA4 | SPDT 5A, 250VAC | Resistive load 5A (NO), 230Vac, 100k cycles;<br>Motor load 4FLA/4LRA (NO), 240Vac, 100k cycles | 5A (NO/NC), 240Vac, 100k cycles |
| | oA4 | SPST 5A, 250VAC | Resistive load 4A (NO), 240Vac, 100k cycles;<br>Motor load 1/8HP (NO), 120/240Vac, 30k cycles;<br>Pilot duty C300 (NO), 100k cycles | 5A (NO), 240Vac, 100k cycles;<br>1(1)A (NO), 240Vac, 100k cycles |
| | oA4 | SPDT 7A, 250Vac | Resistive load 5A (NO), 240Vac, 100k cycles;<br>Motor load 4FLA/4LRA (NO), 240Vac, 100k cycles | 5A (NC), 240Vac, 100K cycles;<br>5A (NO), 240Vac, 20K cycles |
| | oA1 | SPST 16A inrush, 250VAC | Resistive load 11A, 240Vac, 50k cycles; | 11A, 240Vac, 30k cycles |
| Maximum ampacity on terminal 7 | | | 9A (COM OA1 OA3) | |
| Analogue Outputs | 1Ao | | Frequency output; Supply max voltage=12Vdc; Max supply current=2mA; duty cycle 50%; 0 to 166 Hz<br>Accuracy: ±1Hz compared to the full scale | A3: Freq<br>A4: GND |
| | 2Ao | | 0-10Vdc; Max supply current=5mA<br>Accuracy: ±1% compared to the full scale | A1: V+<br>A2: GND |
| Remote Display | XH-REP | | Max cable length: 10 m; Do not connect third party devices. | |
| I/O port | | | HOT-KEY: MAX voltage allowed is 5 VDC. DO NOT CONNECT ANY EXTERNAL POWER SUPPLY. | |
| Purpose of control | | | Operating control | |
| Construction of control | | | Built-in control, intended to be used in Class I or Class II equipment | |
| Approvals | | | R290/R600a: relays tested according to IEC EN60079:0 and IEC EN60079:15<br>IEC 60730-1; IEC 60730-2-9<br>UL 60730-1; UL 60730-2-9<br>CAN/CSA E60730-1; CAN/CSA E60730-2-9 | |

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