OPENwiTP

Wireless handheld terminal
Light, easy to manage, with an ergonomic design, **OPENwiTP** is a reliable **wireless** remote control for CNC-machining centers. **OPENwiTP** performs the key functions required during machine setup with direct visual inspection of the area of the machine being controlled.

**OPENwiTP** is SIL3-rated and IEC61508 certified. This one handed managed ergonomic terminal with a robust design ensures ease of use and safety also in harsh operational environments.

### Hardware main features

#### Terminal
- High resolution 4.3” TFT display
- Battery for **8h+** operation with full charge *(battery charger integrated)*
- 3 levels Enabling device pushbutton
- Emergency stop (E-Stop) pushbutton
- Two-hand operation keys
- 2 rotary selectors
- Keyboard with navigation stick
- 5 MP camera with auxiliary white LED
- NFC reader/writer
- Magnetic hooking on the rear, for ease of use in field

#### Base station
- Compact module for electrical cabinet
- Standard DIN-rail mounted module
- Antenna extension cable supplied

**OPENwiTP** kit includes teach pendant, recharge docking station with connectors, base station to be installed in the cabinet and a cable for external antenna installation.

### Simple system wiring & connections

The base station is simply connected to the CNC via Ethernet and replicates the signal of the teach pendant emergency stop and enabling pushbuttons on its connector *(connections SIL3-rated)*.

Base station and docking station are 24VDC power supplied.
Simple pairing, unpairing mechanism

- Few seconds to link/unlink (pair/unpair) the terminal, through WiFi, to a specific machine
- When successfully paired, enabling device is active and the terminal is ready
- Multiple coexisting pairs within the possible signals range
- Only one terminal can be paired with a base station/machine at any one time (it is signaled if there is a second connection attempt while a pairing is active)
- Pairing is not possible when battery levels are critical

Communication features

- Up to 100 terminals in the same area
- Typical 50 meters WiFi connection range in industrial area
- Selectable 2.4 GHz or 5 GHz transmission frequency

**LEDs status**

L1: yellow LED, turned-on when the terminal in the docking station is charging

L2: green LED, turned-on when the safety communication is active

L3: red LED, turned-on with low brightness during system boot and with normal brightness afterwards. Flashing when the CNC pages are loaded

E-stop button

Working area

OPENwiTP guarantees maximum operational safety, ensuring permanent connection.

Workspace area is defined in 3 simple steps:

- **Safe work zone** - the area around the machine where operation takes place
- **Tolerance zone** - the machine keeps on working resulting in an acoustic alarm
- **Outside workzone** - Immediate E-Stop
Valuable Service Support

- **Remote Live streaming**
  An extremely useful tool for Service operation is the live stream capability. The machine tool user can send a live view to a remote station, allowing the Service Operator to verify what’s going wrong on the machine as a support to the verbal explanation by the user.

- **Pictures**
  Taken pictures are stored in the CNC mass storage

- **Barcode reader**
  Software can decode both 1D and 2D codes

- **NFC read and write**

Focus on i4.0 support

- Safe wireless connection for E-stop and enabling device
- Wireless pairing/unpairing and safe operation via Wi-Fi
- Easy to integrate to any controller
- Point-to-point solution
- Two radio connections for best reliability and robustness
- Barcode and data matrix/QR code reader
- NFC transceiver
- Valuable support for teleservicing thanks to real-time remote access to the machining center
- Discrete safety outputs

CNC pages

Several predefined pages allow the management of the machine tool in AUTOMATIC mode, MANUAL mode (including handwheel mode) and DIGITIZING while a custom page, simply defined through a configuration file, allows to display and edit specific machines data.
# Technical specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>TFT 4.3” 480x800</td>
</tr>
<tr>
<td><strong>Keyboard</strong></td>
<td>4-direction + center push joystick</td>
</tr>
<tr>
<td></td>
<td>3 soft keys</td>
</tr>
<tr>
<td></td>
<td>2 rotary selectors</td>
</tr>
<tr>
<td></td>
<td>On/off key</td>
</tr>
<tr>
<td></td>
<td>Start key</td>
</tr>
<tr>
<td></td>
<td>3 status LEDs</td>
</tr>
<tr>
<td><strong>Wi-Fi</strong></td>
<td>Dual band 802.11a/b/g</td>
</tr>
<tr>
<td><strong>NFC</strong></td>
<td>Contactless communication at 13.56 MHz - read/write</td>
</tr>
<tr>
<td></td>
<td>ISO/IEC 14443A/B</td>
</tr>
<tr>
<td></td>
<td>NFC tags type 1-2-3-4</td>
</tr>
<tr>
<td></td>
<td>ISO/IEC 15693 - MIFARE</td>
</tr>
<tr>
<td><strong>Camera</strong></td>
<td>5 MP</td>
</tr>
<tr>
<td></td>
<td>Autofocus</td>
</tr>
<tr>
<td></td>
<td>Barcode reader</td>
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<tr>
<td></td>
<td>Live streaming video for remote diagnostics</td>
</tr>
<tr>
<td></td>
<td>Auxiliary LED flashlight</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>325 (12.8) x 94 (3.7)</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>Li-ion 7.2V 5.8Ah</td>
</tr>
<tr>
<td><strong>Ingress protection</strong></td>
<td>IP54</td>
</tr>
<tr>
<td><strong>HW specification</strong></td>
<td>Dual parallel channel architecture (1oo2).</td>
</tr>
<tr>
<td></td>
<td>Either channel can process the safety function.</td>
</tr>
<tr>
<td><strong>Pairing</strong></td>
<td>Secure wireless pairing through black channel with unique IDs</td>
</tr>
</tbody>
</table>

## Standards, regulations and certifications

**Applied standards**
- EN ISO 13850:2015 (Safety of machinery-Emergency stop function)
- EN 60204-1:2014 (Safety of machinery-Electrical equipment of machines)
- EN ISO 10218-1:2011 (Robots and robotic devices-Safety requirements for industrial robots)

**Functional Safety Certification**
IEC 61508 - Functional safety of electrical/ electronic/ programmable electronic safety-related systems
Level - SIL3
- Enabling device button
- Emergency stop button