**PULCOM V4**

**In Process Electric Micrometer Control Unit**

### Features

**Higher Functionality**
A higher level of functionality enables utilization of a wider range of applications.
- Measurement of two items: Sizing + end face, sizing + post measurement and various other variations are available.
- P memory function: Measurement of even or odd number of teeth on notched workpieces.
- BCD/BIN output function: U1000A compliant data can be output by adding an I/O2 circuit board.

**Easy Operation**
LCD can display alphanumeric characters.
- Interactive operation for a wide variety of settings.
- Measured and offset values can easily be checked on the LCD.

**Same type of rotary switch as on U400 (previous unit), V7 and V8.**
- Rotary switch enables intuitive operation.
- Frequently used operations can be quickly selected.
- Unifying operation system with U400, V7 and V8 minimizes operator load when the control unit is changed.

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>E - PV 41</th>
<th>E - PV 42</th>
<th>E - PV 42 - S</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of detector inputs</td>
<td>1</td>
<td>2 (1 input possible)</td>
<td>2 (1 input possible)</td>
</tr>
<tr>
<td>No. of measuring items</td>
<td>1 (2 optional)</td>
<td>2 (1 input possible)</td>
<td>2 (1 input possible)</td>
</tr>
<tr>
<td>Judgment output</td>
<td>Max. 6 (1 measuring item), Max. 9 (2 measuring items)</td>
<td>Indicator + LCD character display</td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>Auto master set</td>
<td>Option</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zero shift</td>
<td>Option (built-in zero shift function)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Offset compensation</td>
<td>Immediate offset function (external offset is optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Memory</td>
<td>Optional (max., min., P-P, integration memory, etc.) W standard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data output</td>
<td>Optional (BCD/BIN output, O.C., O.E. and O.D.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dimension error detection</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work pass verify</td>
<td>Optional (valid when memory function is provided)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Run signal output</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Analog output</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-item measurement</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>Power source</td>
<td>AC85 - 250V, 30VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterproof standard</td>
<td>IP54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detachable monitor</td>
<td>IP54 (panel only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special cable connection (standard: 5m, OP maximum 10m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions and weight</td>
<td>170(W) x 240(D) x 150(H)mm (not including protrusions), 3 kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DSP + RISC CPU Provide High Speed and Performance
The adoption of a DSP (digital signal processor) facilitates digital processing of various signals at high speeds.
- In addition to a smoothing filter, the unit has a standard 7-step LPF (low pass filter) selection function.
- Real-time processing of notch processes.

### Superior Ease of Maintenance

**Simplified I/O Monitor**
- Wiring with machine can be easily checked.

**Self-Diagnostic Program**
- Interactive verifications enable user to perform primary maintenance.

**Upper Level Compatibility with U400**
- The U400 can be replaced by using an optional I/O cable.

### Detachable Front Panel (V4S)
- The front panel is detachable so you can position it so it is easy for the operator to use. The control board is built-in to the main unit. The panel can be located a maximum of 10 meters away from the main unit.
V4S Outer Appearance/Dimensions Diagram

Front panel

Panel cut-out diagram

4-M4 Decorative screw/washer

Main Unit

4-4.5 cut-out

11.6
210

178
158

160

233
(MIN 125)

168

158

158

170
184

4-4.5 cut-out

M3 for ground

To main unit

M3 for ground

P-CH

MTN.

AUTO

M1

G1

G2

ANALOG

I/O2

I/O1

ONOFF

POWER

Front panel

TOKYO SEIMITSU
Machine Control Gages

V4 Outer Appearance/Dimensions Diagram

**V4-1 Input/Output Signals**

- **Standard port for basic functions**
- **Connector:** 57E-30360-D76 (36P, made by DDK)
- **Cable:** Provided with 6m shielded wire cable, outer diameter φ10.8
- **Output specifications:** Select open collector or open drain
- **Pin arrangement**

**V4-2 Input/Output Signals (Optional)**

- **Expansion port for BCD/binary data output**
- **Connector:** 57E-30360-D76 (36P, made by DDK)
- **Cable:** Provided with 6m shielded wire cable, outer diameter φ10.8
- **Output specifications:** Select open collector, open emitter or open drain
- **Pin arrangement**

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**Note:** The above is an ordinary example. The relationship between the signals and pin numbers may change depending upon the specifications.
**Power Source**

(1) AC85 - 250V, Power consumption: 30VA Max.
(2) Connector: HS16P-3 (made by Hirose Electric)
(3) Cable: Provided with 6m 3-wire cabtyre, Outer diameter Φ 8.4mm

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**Pin arrangement**

- 1: Black
- 3: White
- 2: Yellow/Green/Shielded

* Make sure to ground shielded wire.

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**Output specifications:** Select open collector or open drain

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**Cable:** Provided with 6m shielded wire cable, outer diameter

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**Connector:** 57E-30360-D76 (36P, made by DDK)

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**Standard port for basic functions**

This is the I/O table when the 2 measurement item option is added.

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**I/O-1 Input/Output Signals**

This is the I/O table when the 2 measurement item option is added.

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**Analog Output Function (optional)**

(1) Connector: (made by Hirose Electric)
- RM15QPH-10P (cable side)
(2) Connector: HS16P-3 (made by Hirose Electric)
(3) Output specifications: ±5V/F.S. ±5%, Output impedance: 1KΩ
(4) Pin arrangement

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**I/O Cable Identification**

(1) Common for I/O-1 and I/O-2

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**Product Code**

- **Product Code**
  - 0935001: PULCOM V4 E-PV411 (1-channel input, O.C output)
  - 0935002: PULCOM V4 E-PV421 (2-channel input, O.C output)
  - 0935003: PULCOM V4 E-PV412 (1-channel input, O.D output)
  - 0935004: PULCOM V4 E-PV422 (2-channel input, O.D output)
  - 0935005: PULCOM V4 E-PV421-S (2-channel input, O.C output)
  - 0935006: PULCOM V4 E-PV422-S (2-channel input, O.D output)

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**Options**

- **Product Code**
  - 0935010: External offset (grade)
  - 0935011: P-type memory
  - 0935012: P100 integrated memory
  - 0935013: P110 integrated estimation memory
  - 0935014: BCD/Binary (open collector) output function
  - 0935015: BCD/Binary (open emitter) output function
  - 0935016: BCD/Binary (open drain) output function
  - 0935017: Workpiece pass-through check
  - 0935018: Dimension error detection
  - 0935019: Analog output function
  - 0935020: 2 measuring items (M2) supported
  - 0935021: Auto master function
  - 0935022: RUN signal output
  - 0935023: Zero shift
  - 0935024: CE marking compliant
  - 0935041: V4 bridge compatible
  - 0935074: Rack mount adapter
  - 0935075: PULCOM T interchangeable rack mount adapter
  - 0935076: PULCOM T alternative base installation plate
  - 0935078: Analog output cable

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**040970 PULCOM T <-> V power connector conversion cable**

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**0935030 U4 <-> V4 conversion cable 1**

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**0935031 U4 <-> V4 conversion cable 2**

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**0935032 U4 <-> V4 conversion cable 3**

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**0935033 V4 specialized retractable power**

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**0935034 U1000A <-> V4 conversion cable**

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**0935035 V4 specialized retractable power**

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**0935036 I/O 1 cable custom length**

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**0935037 I/O 2 cable custom length**

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**0935038 Power cable customized length**

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**0935039 System specifications for approval (at quoted production cost)**

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**0935040 Additional operator’s manual (at quoted production cost)**

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**Machine Control Gages**

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**Product Name**

- 0935001: PULCOM V4 E-PV411 (1-channel input, O.C output)
- 0935002: PULCOM V4 E-PV421 (2-channel input, O.C output)
- 0935003: PULCOM V4 E-PV412 (1-channel input, O.D output)
- 0935004: PULCOM V4 E-PV422 (2-channel input, O.D output)
- 0935005: PULCOM V4 E-PV421-S (2-channel input, O.C output)
- 0935006: PULCOM V4 E-PV422-S (2-channel input, O.D output)

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**040970 PULCOM T <-> V power connector conversion cable**

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**0935030 U4 <-> V4 conversion cable 1**

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**0935031 U4 <-> V4 conversion cable 2**

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**0935032 U4 <-> V4 conversion cable 3**

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**0935033 V4 specialized retractable power**

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**0935034 U1000A <-> V4 conversion cable**

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**0935035 V4 specialized retractable power**

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**0935036 I/O 1 cable custom length**

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**0935037 I/O 2 cable custom length**

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**0935038 Power cable customized length**

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**0935039 System specifications for approval (at quoted production cost)**

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**0935040 Additional operator’s manual (at quoted production cost)**

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**Insulation color:** Pink 7

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