



Rack Mount Transducers Modular Series DAQ-8

Features

- Up to eight transducers in one module
- 16 , 7 , or 3 modules in one panel
- True rms measurements
- Very high transducer density per panel
- Simple installation and calibration
- Easy configuration from the front via Modbus RTU

Description

The DAQ-8 Series Transducer* product is a family of high density plug-in modules for the Energy Sector and Industrial Markets.

The DAQ-8 Series is available for 19" rack, Half-rack and Quarter rack mounting (16,7and 3 Modules).

Each module has up to 8 transducers with 8 analog outputs and a backplane termination assembly.

All transducers provide true rms values.

One important feature for maintenance is that a replacement module, as soon as plugged-in, will automatically use the configuration setup from the old module if desired.

** Powered by Apix ISODAQ Technology.*

Modules

- Voltage
- Current
- Voltage / Current
- Watt / Var
- 3 Phase Watt / Var
- Power Factor
- Phase Angle
- Frequency



Outputs

- 4 - 20 mA
- 0 - 20 mA
- 0 to ± 1 mA
- 1 - 5 mA
- 0 - 10 V



Blank



APIX

Rack Mount Transducers Modular Series DAQ-8

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DAQ-8C AC CURRENT INPUT - True RMS Rack Mount Transducer Module

Description

The DAQ-8C Current Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. Current measurements can also be done directly without a transformer for each transducer in this Module.

The DAQ-8C module can replace up to 8 transducers. Up to 8 individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced.

Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-2C-XY
(2 Transducers)

DAQ-4C-XY
(4 Transducers)

DAQ-8C-XY
(8 Transducers)

X stands for type of output.

Please replace as per the following table:

| Output | X Digit | Load Resistance |
|-----------------|---------|-------------------|
| 0 to ± 1 mA | 1 | 0 - 10 K Ω |
| 1 - 5 mA | 2 | 0 - 5 K Ω |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 K Ω |

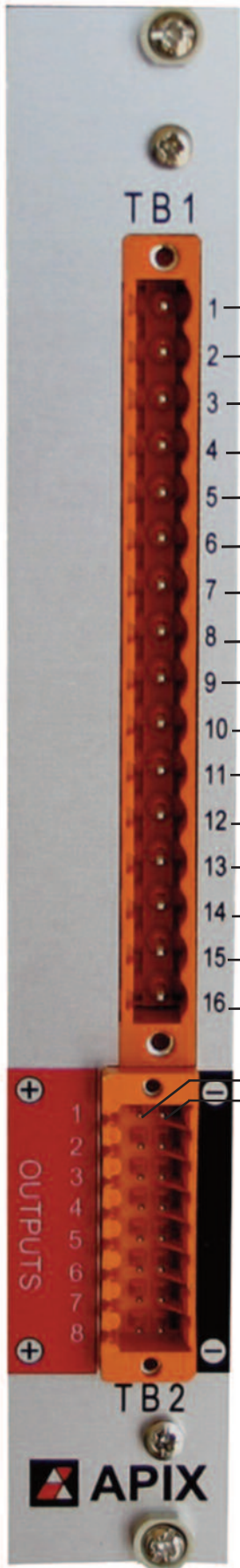
Y stands for the input current range. The value for that is:

| Input Range | Y Digit |
|-------------|---------|
| 0 - 1 A | 1 |
| 0 - 5 A | 5 |

Specifications

| | | |
|---|--|---|
| Current Input Calibrated Range 0 - 1 A Range with Linearity 0 - 1.2 A Overload per IEC60688 45 A Calibrated Range 0 - 5 A Range with Linearity 0 - 10 A Overload per IEC60688 200 A Burden/Transducer 0.15 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Temperature Effect On Accuracy Zero Drift ±0.001 % /°C of Span Span Drift ±0.003 %/°C, max Resolution 16 bits |
| Analog Output 0 to ±1 mA (See Order Information) 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V Maximum Current 24 mA | | Temperature Range Operating -25 to 65 °C Storage -40 to 85 °C Humidity < 95 % Non Condensing |
| Load Resistance Output Resistance 0 to ±1 mA 0 - 10 KΩ 1 - 5 mA 0 - 5 KΩ 0 - 20 mA 0 - 1200 Ω 4 - 20 mA 0 - 1200 Ω 0 - 10 V > 1 KΩ | | Surge Withstand 5 KV peak test voltage per IEC 60688 and IEC 60521 Auxiliary Power Supply Supply Voltage 18 to 72 VDC Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 V. This is distributed to each Module via the Rack Backplane. |
| Accuracy Class 0.2 per IEC 60688 Class 0.1 optional | | Power Consumption DAQ-2C-XY 2 W DAQ-4C-XY 3.5 W DAQ-8C-XY 7 W |
| Output Ripple Peak <0.06 % of Reading | | Dimensions Height 173 H (mm) Depth 122 D (mm) Width 25 W (mm) |
| Response Time 100 mSec to 99.9 % of reading | | |
| Calibration Adjustments The user can perform any adjustments of Span and Zero for calibration or other purposes | | |

CONNECTION DIAGRAMS



| | 8C-XY | 4C-XY | 2C-XY |
|------|-------|-------|-------|
| 1 | | | |
| 2 ~ | C1 | C1 | C1 |
| 3 | | | |
| 4 ~ | C2 | C2 | C2 |
| 5 | | | |
| 6 ~ | C3 | C3 | |
| 7 | | | |
| 8 ~ | C4 | C4 | |
| 9 | | | |
| 10 ~ | C5 | | |
| 11 | | | |
| 12 ~ | C6 | | |
| 13 | | | |
| 14 ~ | C7 | | |
| 15 | | | |
| 16 ~ | C8 | | |
| + | | | |
| 1 | OUT-1 | OUT-1 | OUT-1 |
| 2 | OUT-2 | OUT-2 | OUT-2 |
| 3 | OUT-3 | OUT-3 | |
| 4 | OUT-4 | OUT-4 | |
| 5 | OUT-5 | | |
| 6 | OUT-6 | | |
| 7 | OUT-7 | | |
| 8 | OUT-8 | | |
| - | | | |



DAQ-8E AC VOLTAGE INPUT - True RMS Rack Mount Transducer Module

Description

The DAQ-8E Voltage Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. This can be done directly without a transformer for each transducer in this Module.

The DAQ-8E module can replace up to 8 transducers. Up to 8 individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced.

Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-2E-X

(2 Transducers)

DAQ-4E-X

(4 Transducers)

DAQ-8E-X

(8 Transducers)

X stands for type of output.

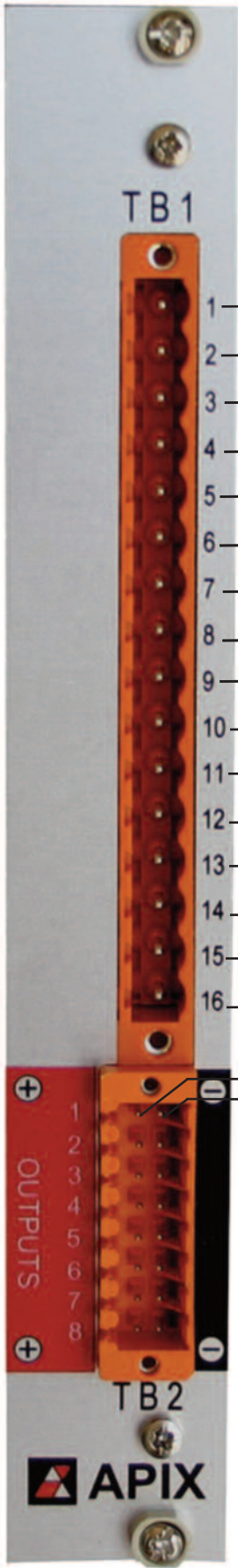
Please replace as per the following table:

| Output | X Digit | Load Resistance |
|-----------------|---------|-------------------|
| 0 to ± 1 mA | 1 | 0 - 10 K Ω |
| 1 - 5 mA | 2 | 0 - 5 K Ω |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 K Ω |

Specifications

| <p>Voltage Input</p> <p>Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz</p> | | <p>Temperature Effect On Accuracy</p> <p>Zero Drift ±0.001 % /°C of Span Span Drift ±0.004 %/°C, max Resolution 16 bits</p> | | | | | | | | | | | | | |
|---|------------|--|------------|------------|------------|----------|------------|-----------|------------|-----------|------------|----------|--------|---|--|
| <p>Analog Output 0 to ±1 mA (See Order Information) 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V</p> <p>Maximum Current 24 mA</p> | | <p>Temperature Range</p> <p>Operating -25 to 65 °C Storage -40 to 85 °C</p> <p>Humidity < 95 % Non Condensing</p> | | | | | | | | | | | | | |
| <p>Load Resistance</p> <table border="0"> <thead> <tr> <th>Output</th> <th>Resistance</th> </tr> </thead> <tbody> <tr> <td>0 to ±1 mA</td> <td>0 - 10 KΩ</td> </tr> <tr> <td>1 - 5 mA</td> <td>0 - 5 KΩ</td> </tr> <tr> <td>0 - 20 mA</td> <td>0 - 1200 Ω</td> </tr> <tr> <td>4 - 20 mA</td> <td>0 - 1200 Ω</td> </tr> <tr> <td>0 - 10 V</td> <td>> 1 KΩ</td> </tr> </tbody> </table> | | Output | Resistance | 0 to ±1 mA | 0 - 10 KΩ | 1 - 5 mA | 0 - 5 KΩ | 0 - 20 mA | 0 - 1200 Ω | 4 - 20 mA | 0 - 1200 Ω | 0 - 10 V | > 1 KΩ | <p>Surge Withstand</p> <p>5 KV peak test voltage per IEC 60688 and IEC 60521</p> | |
| Output | Resistance | | | | | | | | | | | | | | |
| 0 to ±1 mA | 0 - 10 KΩ | | | | | | | | | | | | | | |
| 1 - 5 mA | 0 - 5 KΩ | | | | | | | | | | | | | | |
| 0 - 20 mA | 0 - 1200 Ω | | | | | | | | | | | | | | |
| 4 - 20 mA | 0 - 1200 Ω | | | | | | | | | | | | | | |
| 0 - 10 V | > 1 KΩ | | | | | | | | | | | | | | |
| <p>Accuracy Class 0.2 per IEC 60688 Class 0.1 optional</p> | | <p>Auxiliary Power Supply</p> <p>Supply Voltage 18 to 72 VDC</p> <p>Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 V. This is distributed to each Module via the Rack Backplane.</p> | | | | | | | | | | | | | |
| <p>Output Ripple Peak <0.06 % of Reading</p> | | <p>Power Consumption</p> <table border="0"> <tbody> <tr> <td>DAQ-2E-X</td> <td>2 W</td> </tr> <tr> <td>DAQ-4E-X</td> <td>3.5 W</td> </tr> <tr> <td>DAQ-8E-X</td> <td>7 W</td> </tr> </tbody> </table> | | DAQ-2E-X | 2 W | DAQ-4E-X | 3.5 W | DAQ-8E-X | 7 W | | | | | | |
| DAQ-2E-X | 2 W | | | | | | | | | | | | | | |
| DAQ-4E-X | 3.5 W | | | | | | | | | | | | | | |
| DAQ-8E-X | 7 W | | | | | | | | | | | | | | |
| <p>Response Time 100 mSec to 99.9% of reading</p> | | <p>Dimensions</p> <table border="0"> <tbody> <tr> <td>Height</td> <td>173 H (mm)</td> </tr> <tr> <td>Depth</td> <td>122 D (mm)</td> </tr> <tr> <td>Width</td> <td>25 W (mm)</td> </tr> </tbody> </table> | | Height | 173 H (mm) | Depth | 122 D (mm) | Width | 25 W (mm) | | | | | | |
| Height | 173 H (mm) | | | | | | | | | | | | | | |
| Depth | 122 D (mm) | | | | | | | | | | | | | | |
| Width | 25 W (mm) | | | | | | | | | | | | | | |
| <p>Calibration Adjustments</p> <p>The user can perform any adjustments of Span and Zero for calibration or other purposes</p> | | | | | | | | | | | | | | | |

CONNECTION DIAGRAMS



| | 8E-X | 4E-X | 2E-X |
|------|-------|-------|-------|
| 1 | | | |
| 2 ~ | E1 | E1 | E1 |
| 3 | | | |
| 4 ~ | E2 | E2 | E2 |
| 5 | | | |
| 6 ~ | E3 | E3 | |
| 7 | | | |
| 8 ~ | E4 | E4 | |
| 9 | | | |
| 10 ~ | E5 | | |
| 11 | | | |
| 12 ~ | E6 | | |
| 13 | | | |
| 14 ~ | E7 | | |
| 15 | | | |
| 16 ~ | E8 | | |
| + | | | |
| 1 | OUT-1 | OUT-1 | OUT-1 |
| 2 | OUT-2 | OUT-2 | OUT-2 |
| 3 | OUT-3 | OUT-3 | |
| 4 | OUT-4 | OUT-4 | |
| 5 | OUT-5 | | |
| 6 | OUT-6 | | |
| 7 | OUT-7 | | |
| 8 | OUT-8 | | |
| - | | | |



DAQ-8CE AC CURRENT and VOLTAGE - True RMS Rack Mount Transducer Module

Description

The DAQ-8CE Current and Voltage Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. This can be done directly without a transformer for each transducer in this Module.

The DAQ-8CE module can replace up to 4 Current and 4 Voltage transducers. Up to 8 individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced.

Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-2CE-XY

(1C+1E Transducers)

DAQ-4CE-XY

(2C+2E Transducers)

DAQ-8CE-XY

(4C+4E Transducers)

X stands for type of output.

Please replace as per the following table:

| Output | X Digit | Load Resistance |
|------------|---------|-----------------|
| 0 to ±1 mA | 1 | 0 - 10 KΩ |
| 1 - 5 mA | 2 | 0 - 5 KΩ |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 KΩ |

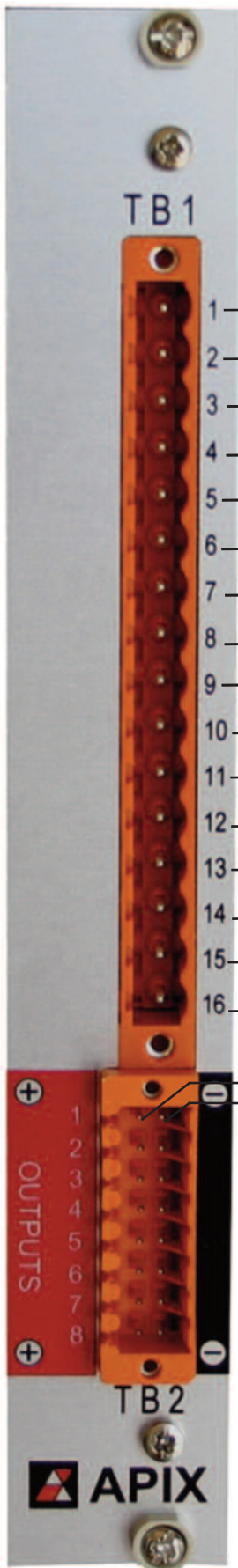
Y stands for the input current range. The value for that is:

| Input Range | Y Digit |
|-------------|---------|
| 0 - 1 A | 1 |
| 0 - 5 A | 5 |

Specifications

| | | | |
|---|--|--|--|
| Voltage Input Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Calibration Adjustments The user can perform any adjustments of Span and Zero for calibration or other purpose. | |
| Current Input Calibrated Range 0 - 1 A Range with Linearity 0 - 1.2 A Overload per IEC60688 45 A Calibrated Range 0 - 5 A Range with Linearity 0 - 10 A Overload per IEC60688 200 A Burden/Transducer 0.15 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Temperature Effect On Accuracy Zero Drift ±0.001 %/°C of Span Span Drift (C) ±0.003 %/°C, max Span Drift (E) ±0.004 %/°C, max Resolution 16 bits | |
| Analog Output 0 to ±1 mA (See Order Information) 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V Maximum Current 24 mA | | Temperature Range Operating -25 to 65 °C Storage -40 to 85 °C | |
| Load Resistance Output Resistance 0 to ±1 mA 0 - 10 KΩ 1 - 5 mA 0 - 5 KΩ 0 - 20 mA 0 - 1200 Ω 4 - 20 mA 0 - 1200 Ω 0 - 10 V > 1 KΩ | | Humidity < 95 % Non Condensing Surge Withstand 5 KV peak test voltage per IEC 60688 and IEC 60521 | |
| Accuracy Class 0.2 per IEC 60688 Class 0.1 optional | | Auxiliary Power Supply Supply Voltage 18 to 72 VDC Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 VDC. This is distributed to each Module via the Rack Backplane. | |
| Output Ripple Peak <0.06 % of Reading | | Power Consumption DAQ-2CE-XY 2 W DAQ-4CE-XY 3.5 W DAQ-8CE-XY 7 W | |
| Response Time 100 mSec to 99.9 % of reading | | Dimensions Height 173 H (mm) Depth 122 D (mm) Width 25 W (mm) | |

CONNECTION DIAGRAMS



| | 8CE-XY | 4CE-XY | 2CE-XY |
|-----------|--------|--------|--------|
| 1 ~ E1 | | E1 | E1 |
| 2 ~ E1 | | | |
| 3 ~ E2 | | E2 | |
| 4 ~ E2 | | | |
| 5 ~ E3 | | | |
| 6 ~ E3 | | | |
| 7 ~ E4 | | | |
| 8 ~ E4 | | | |
| 9 ~ C1 | | C1 | C1 |
| 10 ~ C1 | | | |
| 11 ~ C2 | | C2 | |
| 12 ~ C2 | | | |
| 13 ~ C3 | | | |
| 14 ~ C3 | | | |
| 15 ~ C4 | | | |
| 16 ~ C4 | | | |
| ± 1 OUT-1 | | OUT-1 | OUT-1 |
| 2 OUT-2 | | OUT-2 | OUT-2 |
| 3 OUT-3 | | OUT-3 | |
| 4 OUT-4 | | OUT-4 | |
| 5 OUT-5 | | | |
| 6 OUT-6 | | | |
| 7 OUT-7 | | | |
| 8 OUT-8 | | | |



DAQ-8WV WATT and VAR - True RMS Rack Mount Transducer Module

Description

The DAQ-8WV Watt and VAR Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. This can be done directly without a transformer for each transducer in this Module.

The DAQ-8WV module can replace up to 4 combined Watt/Var transducers. Both Watt and Var values are available simultaneously for SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced. Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-2WV-XY

(1W+1Var Transducers)

DAQ-4WV-XY

(2W+2Var Transducers)

DAQ-8WV-XY

(4W+4Var Transducers)

X stands for type of output.

Please replace as per the following table:

| Output | X Digit | Load Resistance |
|-----------------|---------|-------------------|
| 0 to ± 1 mA | 1 | 0 - 10 K Ω |
| 1 - 5 mA | 2 | 0 - 5 K Ω |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 K Ω |

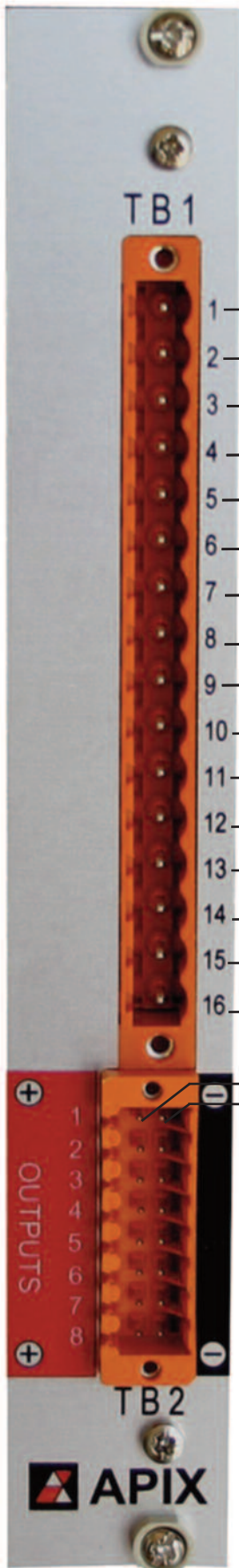
Y stands for the input current range. The value for that is:

| Input Range | Y Digit |
|-------------|---------|
| 0 - 1 A | 1 |
| 0 - 5 A | 5 |

Specifications

| | | | |
|---|--|--|--|
| Voltage Input Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Calibration Adjustments The user can perform any adjustments of Span and Zero for calibration or other purpose. | |
| Current Input Calibrated Range 0 - 1 A Range with Linearity 0 - 1.2 A Overload per IEC60688 45 A Calibrated Range 0 - 5 A Range with Linearity 0 - 10 A Overload per IEC60688 200 A Burden/Transducer 0.15 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Temperature Effect On Accuracy Zero Drift ±0.001 % /°C of Span Span Drift (C) ±0.003 %/°C, max Span Drift (E) ±0.004 %/°C, max Resolution 16 bits | |
| Analog Output 0 to ±1 mA (See Order Information) 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V Maximum Current 24 mA | | Temperature Range Operating -25 to 65 °C Storage -40 to 85 °C | |
| Load Resistance Output Resistance 0 to ±1 mA 0 - 10 KΩ 1 - 5 mA 0 - 5 KΩ 0 - 20 mA 0 - 1200 Ω 4 - 20 mA 0 - 1200 Ω 0 - 10 V > 1 KΩ | | Humidity < 95 % Non Condensing Surge Withstand 5 KV peak test voltage per IEC 60688 and IEC 60521 | |
| Accuracy Class 0.2 per IEC 60688 Class 0.1 optional | | Auxiliary Power Supply Supply Voltage 18 to 72 VDC Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 VDC. This is distributed to each Module via the Rack Backplane. | |
| Output Ripple Peak <0.06 % of Reading | | Power Consumption DAQ-2WV-XY 2 W DAQ-4WV-XY 3.5 W DAQ-8WV-XY 7 W | |
| Response Time 100 mSec to 99.9 % of reading | | Dimensions Height 173 H (mm) Depth 122 D (mm) Width 25 W (mm) | |

CONNECTION DIAGRAMS



| | 8WV-XY | 4WV-XY | 2WV-XY |
|-----------|--------|--------|--------|
| 1 ~ E1 | E1 | E1 | E1 |
| 2 ~ E2 | E2 | E2 | |
| 3 ~ E3 | E3 | | |
| 4 ~ E4 | E4 | | |
| 5 ~ C1 | C1 | C1 | C1 |
| 6 ~ C2 | C2 | C2 | |
| 7 ~ C3 | C3 | | |
| 8 ~ C4 | C4 | | |
| ± 1 OUT-1 | OUT-1 | OUT-1 | OUT-1 |
| 2 OUT-2 | OUT-2 | OUT-2 | OUT-2 |
| 3 OUT-3 | OUT-3 | OUT-3 | |
| 4 OUT-4 | OUT-4 | OUT-4 | |
| 5 OUT-5 | | | |
| 6 OUT-6 | | | |
| 7 OUT-7 | | | |
| 8 OUT-8 | | | |



DAQ-4PF POWER FACTOR - True RMS Rack Mount Transducer Module

Description

The DAQ-4PF Power Factor Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. This can be done directly without a transformer for each transducer in this Module.

The DAQ-4PF module can replace up to 4 Power Factor transducers.

Up to 4 individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced. Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-1PF-XY

(1 PF Transducer)

DAQ-2PF-XY

(2 PF Transducers)

DAQ-4PF-XY

(4 PF Transducers)

X stands for type of output.

Please replace as per the following table:

| Output | X Digit | Load Resistance |
|-----------------|---------|-------------------|
| 0 to ± 1 mA | 1 | 0 - 10 K Ω |
| 1 - 5 mA | 2 | 0 - 5 K Ω |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 K Ω |

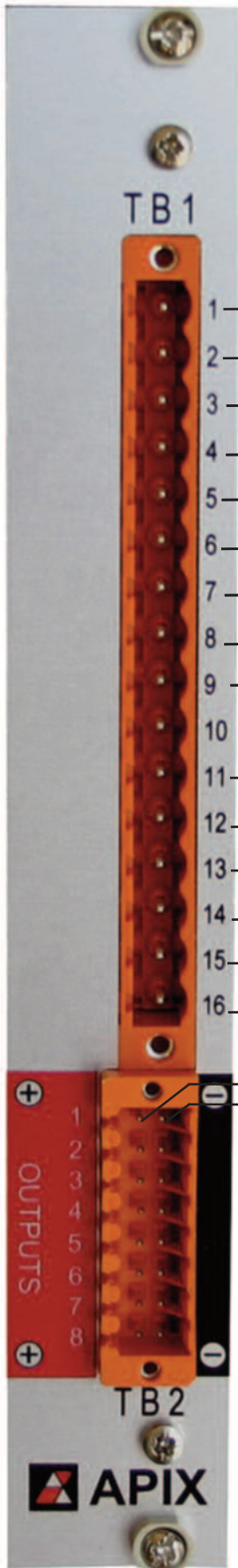
Y stands for the input current range. The value for that is:

| Input Range | Y Digit |
|-------------|---------|
| 0 - 1 A | 1 |
| 0 - 5 A | 5 |

Specifications

| | | | |
|---|--|---|--|
| Voltage Input Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Calibration Adjustments The user can perform any adjustments of Span and Zero for calibration or other purpose. | |
| Current Input Calibrated Range 0 - 1 A Range with Linearity 0 - 1.2 A Overload per IEC60688 45 A Calibrated Range 0 - 5 A Range with Linearity 0 - 10 A Overload per IEC60688 200 A Burden/Transducer 0.15 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Temperature Effect On Accuracy Zero Drift ±0.001 % /°C of Span Span Drift (C) ±0.003 %/°C, max Span Drift (E) ±0.004 %/°C, max Resolution 16 bits | |
| Analog Output (See Order Information) 0 to ±1 mA 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V Maximum Current 24 mA | | Temperature Range Operating -25 to 65 °C Storage -40 to 85 °C Humidity < 95 % Non Condensing | |
| Load Resistance Output Resistance 0 to ±1 mA 0 - 10 KΩ 1 - 5 mA 0 - 5 KΩ 0 - 20 mA 0 - 1200 Ω 4 - 20 mA 0 - 1200 Ω 0 - 10 V > 1 KΩ | | Surge Withstand 5 KV peak test voltage per IEC 60688 and IEC 60521 | |
| Accuracy Class 0.2 per IEC 60688 Class 0.1 optional | | Auxiliary Power Supply Supply Voltage 18 to 72 VDC Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 VDC. This is distributed to each Module via the Rack Backplane. | |
| Output Ripple Peak <0.06 % of Reading | | Power Consumption DAQ-1PF-XY 1.3W DAQ-2PF-XY 2 W DAQ-4PF-XY 3.5 W | |
| Response Time 100 mSec to 99.9 % of reading | | Dimensions Height 173 H (mm) Depth 122 D (mm) Width 25 W (mm) | |

CONNECTION DIAGRAMS



| | 4PF-XY | 2PF-XY | 1PF-XY |
|---------------|--------|--------|--------|
| 1 ~ E1 | | E1 | E1 |
| 2 | | | |
| 3 ~ E2 | | E2 | |
| 4 | | | |
| 5 ~ E3 | | | |
| 6 | | | |
| 7 ~ E4 | | | |
| 8 | | | |
| 9 ~ C1 | | C1 | C1 |
| 10 | | | |
| 11 ~ C2 | | C2 | |
| 12 | | | |
| 13 ~ C3 | | | |
| 14 | | | |
| 15 ~ C4 | | | |
| 16 | | | |
| 1 + - 1 OUT-1 | | OUT-1 | OUT-1 |
| 2 2 OUT-2 | | OUT-2 | |
| 3 3 OUT-3 | | | |
| 4 4 OUT-4 | | | |



DAQ-3PV3C 3-Phase 4-Wire Unbalanced - True RMS Rack Mount Transducer Module

Description

The DAQ-3PV3C 3 Phase 4 Wire Unbalanced Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. This can be done directly without a transformer for each transducer in this Module.

Individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced.

Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-3PV3C-XY

(Total W - Total Var Transducer)

X stands for type of output.

Please replace as per the following table:

| Output | X Digit | Load Resistance |
|------------|---------|-----------------|
| 0 to ±1 mA | 1 | 0 - 10 KΩ |
| 1 - 5 mA | 2 | 0 - 5 KΩ |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 KΩ |

Y stands for the input current range. The value for that is:

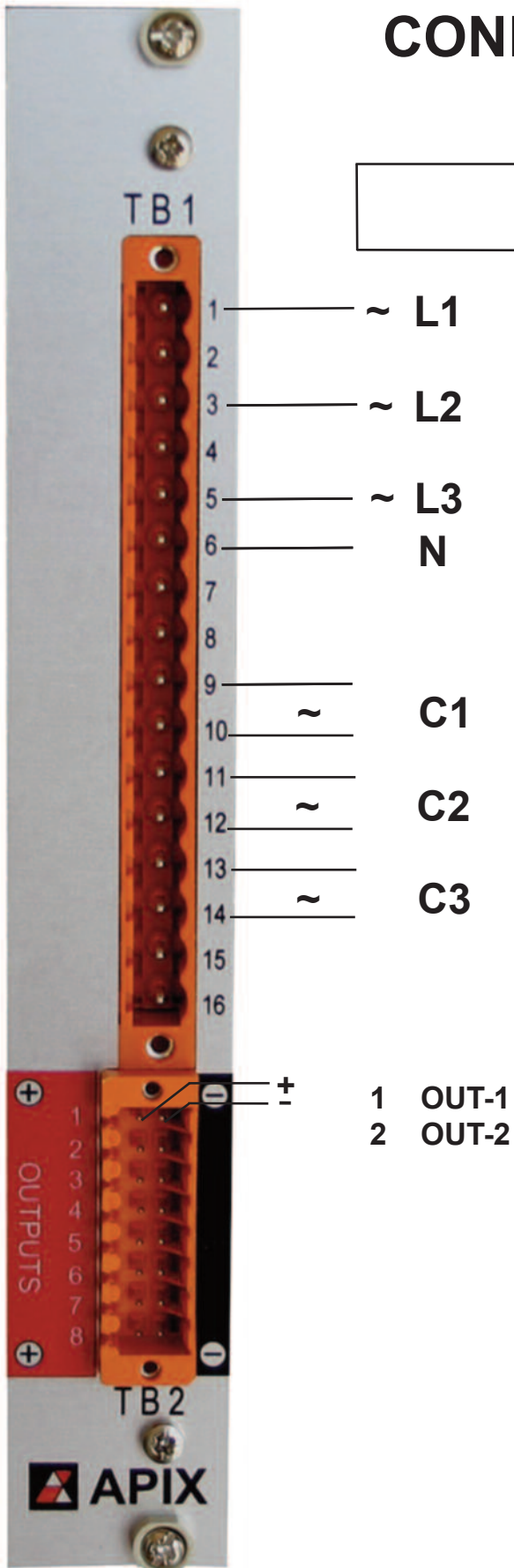
| Input Range | Y Digit |
|-------------|---------|
| 0 - 1 A | 1 |
| 0 - 5 A | 5 |

Specifications

| | | | |
|---|--|---|--|
| Voltage Input Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Calibration Adjustments The user can perform any adjustments of Span and Zero for calibration or other purpose. | |
| Current Input Calibrated Range 0 - 1 A Range with Linearity 0 - 1.2 A Overload per IEC60688 45 A Calibrated Range 0 - 5 A Range with Linearity 0 - 10 A Overload per IEC60688 200 A Burden/Transducer 0.15 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Temperature Effect On Accuracy Zero Drift ±0.001 % /°C of Span Span Drift (C) ±0.003 %/°C, max Span Drift (E) ±0.004 %/°C, max Resolution 16 bits | |
| Analog Output (See Order Information) 0 to ±1 mA 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V Maximum Current 24 mA | | Temperature Range Operating -25 to 65 °C Storage -40 to 85 °C | |
| Load Resistance Output Resistance 0 to ±1 mA 0 - 10 KΩ 1 - 5 mA 0 - 5 KΩ 0 - 20 mA 0 - 1200 Ω 4 - 20 mA 0 - 1200 Ω 0 - 10 V > 1 KΩ | | Humidity < 95 % Non Condensing Surge Withstand 5 KV peak test voltage per IEC 60688 and IEC 60521 | |
| Accuracy Class 0.2 per IEC 60688 Class 0.1 optional | | Auxiliary Power Supply Supply Voltage 18 to 72 VDC Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 VDC. This is distributed to each Module via the Rack Backplane. | |
| Output Ripple Peak <0.06 % of Reading | | Power Consumption DAQ-3PV3C-XY 3 W | |
| Response Time 100 mSec to 99.9 % of reading | | Dimensions Height 173 H (mm) Depth 122 D (mm) Width 25 W (mm) | |

CONNECTION DIAGRAMS

3PV3C-XY





DAQ-4PH-XY PHASE ANGLE Rack Mount Transducer

Description

The DAQ-4PH Phase Angle Transducer Module is for measuring AC waveforms that may or may not be pure sine waves. This can be done directly without a transformer for each transducer in this Module.

The DAQ-4PH module can replace up to 4 Phase Angle transducers.
Up to 4 individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced.
Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-1PH-XY

(1 Phase Angle Transducer)

DAQ-2PH-XY

(2 Phase Angle Transducers)

DAQ-4PH-XY

(4 Phase Angle Transducers)

X stands for type of output.

Please replace as per the following table:

| Output | X Digit | Load Resistance |
|-----------------|---------|-------------------|
| 0 to ± 1 mA | 1 | 0 - 10 K Ω |
| 1 - 5 mA | 2 | 0 - 5 K Ω |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 K Ω |

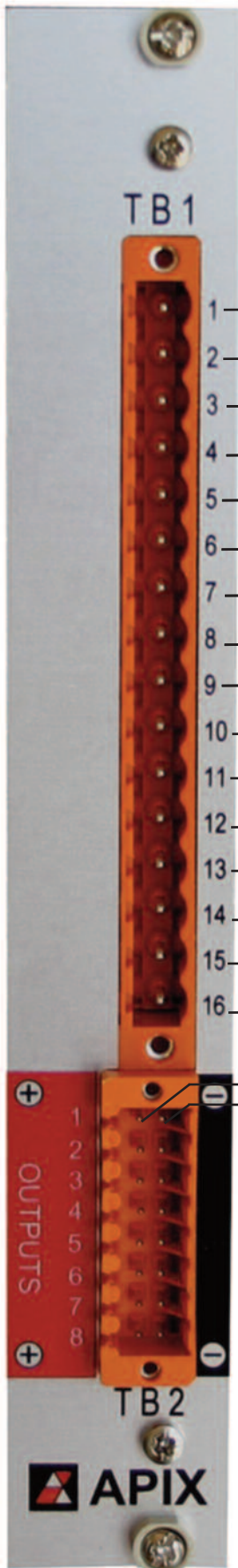
Y stands for the input current range.
The value for that is:

| Input Range | Y Digit |
|-------------|---------|
| 0 - 1 A | 1 |
| 0 - 5 A | 5 |

Specifications

| | | | |
|---|--|---|--|
| Voltage Input Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Calibration Adjustments The user can perform any adjustments of Span and Zero for calibration or other purpose. | |
| Current Input Calibrated Range 0 - 1 A Range with Linearity 0 - 1.2 A Overload per IEC60688 45 A Calibrated Range 0 - 5 A Range with Linearity 0 - 10 A Overload per IEC60688 200 A Burden/Transducer 0.15 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz | | Temperature Effect On Accuracy Zero Drift ±0.001 % /°C of Span Span Drift (C) ±0.003 %/°C, max Span Drift (E) ±0.004 %/°C, max Resolution 16 bits | |
| Analog Output (See Order Information) 0 to ±1 mA 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V Maximum Current 24 mA | | Temperature Range Operating -25 to 65 °C Storage -40 to 85 °C Humidity < 95 % Non Condensing | |
| Load Resistance Output Resistance 0 to ±1 mA 0 - 10 KΩ 1 - 5 mA 0 - 5 KΩ 0 - 20 mA 0 - 1200 Ω 4 - 20 mA 0 - 1200 Ω 0 - 10 V > 1 KΩ | | Surge Withstand 5 KV peak test voltage per IEC 60688 and IEC 60521 | |
| Accuracy Class 0.2 per IEC 60688 Class 0.1 optional | | Auxiliary Power Supply Supply Voltage 18 to 72 VDC Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 VDC. This is distributed to each Module via the Rack Backplane. | |
| Output Ripple Peak <0.06 % of Reading | | Power Consumption DAQ-1PH-XY 1.3 W DAQ-2PH-XY 2 W DAQ-4PH-XY 3.5 W | |
| Response Time 100 mSec to 99.9 % of reading | | Dimensions Height 173 H (mm) Depth 122 D (mm) Width 25 W (mm) | |

CONNECTION DIAGRAMS



| | 4PH-XY | 2PH-XY | 1PH-XY |
|-----------|--------|--------|--------|
| 1 ~ E1 | E1 | E1 | E1 |
| 2 ~ E2 | E2 | E2 | |
| 3 ~ E3 | E3 | | |
| 4 ~ E4 | E4 | | |
| 9 ~ C1 | C1 | C1 | C1 |
| 10 ~ C2 | C2 | C2 | |
| 13 ~ C3 | C3 | | |
| 14 ~ C4 | C4 | | |
| 1 ~ OUT-1 | OUT-1 | OUT-1 | OUT-1 |
| 2 ~ OUT-2 | OUT-2 | OUT-2 | |
| 3 ~ OUT-3 | | | |
| 4 ~ OUT-4 | | | |



APIX DAQ-4F-X FREQUENCY Rack Mount Transducer

Description

The DAQ-4F Frequency Transducer Module is for measuring the frequency of VAC waveforms. This can be done directly without a transformer for each transducer in this Module.

The DAQ-4F module can replace up to 4 frequency transducers. Up to 4 individual mA or V outputs are available for connection to SCADA systems, PLC's and recorders.

This module includes a front plug-in unit and a rear termination backplane assembly.

In case of replacement, the new front unit will automatically use the configuration settings from the old unit if desired. The rear termination assembly does not normally need to be replaced. Power is automatically available when Module is plugged into the Rack.

These and other features can dramatically lower equipment and installation costs as well as maintenance overhead.



Order Information for each Module:

DAQ-1F-X

(1 Frequency Transducer)

DAQ-2F-X

(2 Frequency Transducers)

DAQ-4F-X

(4 Frequency Transducers)

X stands for type of output.

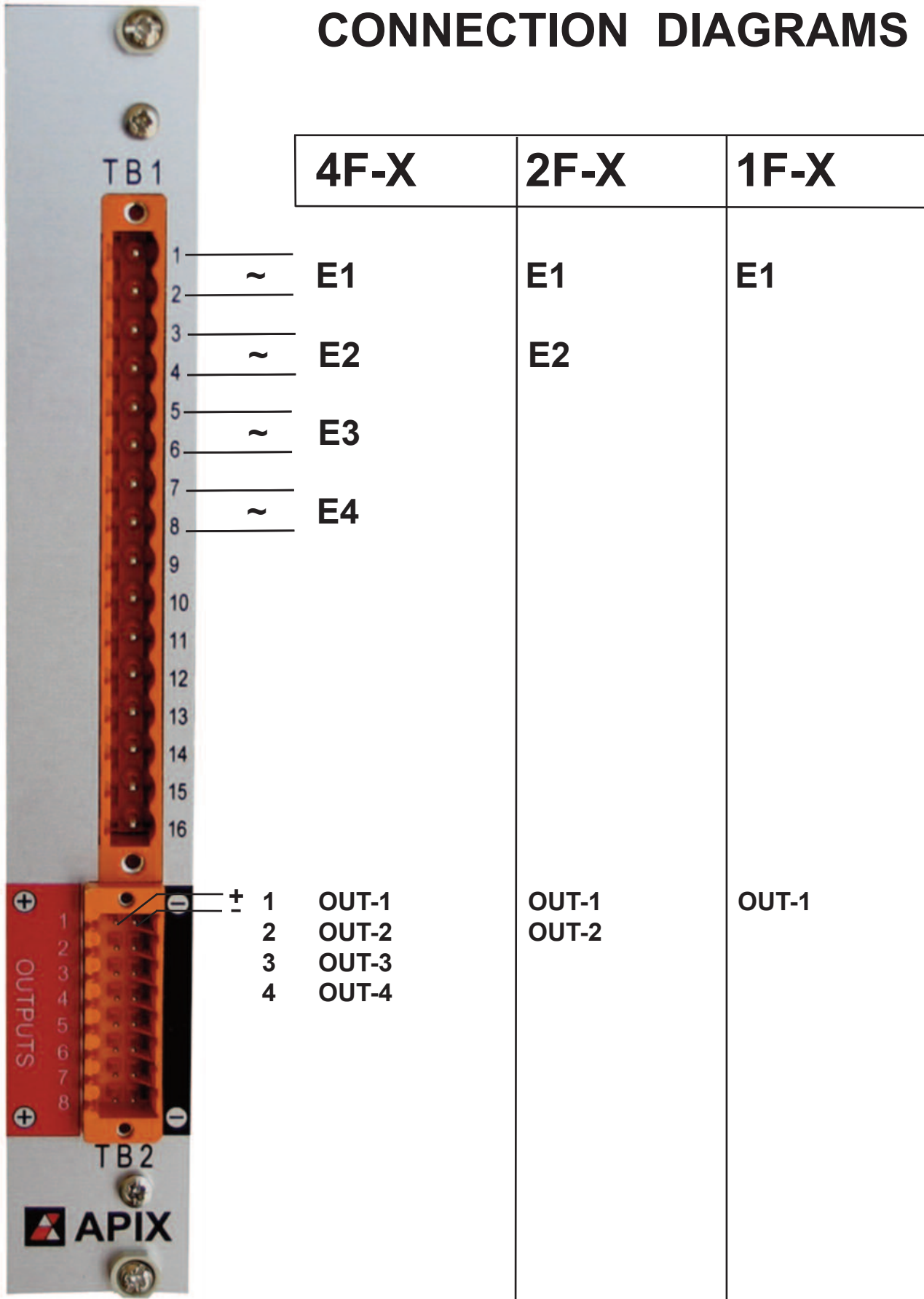
Please replace as per the following table:

| Output | X Digit | Load Resistance |
|-----------------|---------|-------------------|
| 0 to ± 1 mA | 1 | 0 - 10 K Ω |
| 1 - 5 mA | 2 | 0 - 5 K Ω |
| 0 - 20 mA | 3 | 0 - 1200 Ω |
| 4 - 20 mA | 4 | 0 - 1200 Ω |
| 0 - 10 V | 5 | > 1 K Ω |

Specifications

| <p>Voltage Input</p> <p>Calibrated Range 0 - 280 Vrms Range with Linearity 0 - 320 Vrms Overload Continuous 400 Vrms Burden/Transducer 0.02 VA Frequency Range 40 to 70 Hz Optional specify nominal 10 to 1000 Hz</p> | | <p>Temperature Effect On Accuracy</p> <p>Zero Drift ±0.001 % /°C of Span Span Drift ±0.004 %/°C, max Resolution 16 bits</p> | | | | | | | | | | | | | |
|---|------------|--|------------|------------|------------|----------|------------|-----------|------------|-----------|------------|----------|--------|---|--|
| <p>Analog Output 0 to ±1 mA (See Order Information) 1 - 5 mA 0 - 20 mA 4 - 20 mA 0 - 10 V</p> <p>Maximum Current 24 mA</p> | | <p>Temperature Range</p> <p>Operating -25 to 65 °C Storage -40 to 85 °C</p> <p>Humidity < 95 % Non Condensing</p> | | | | | | | | | | | | | |
| <p>Load Resistance</p> <table border="0"> <thead> <tr> <th>Output</th> <th>Resistance</th> </tr> </thead> <tbody> <tr> <td>0 to ±1 mA</td> <td>0 - 10 KΩ</td> </tr> <tr> <td>1 - 5 mA</td> <td>0 - 5 KΩ</td> </tr> <tr> <td>0 - 20 mA</td> <td>0 - 1200 Ω</td> </tr> <tr> <td>4 - 20 mA</td> <td>0 - 1200 Ω</td> </tr> <tr> <td>0 - 10 V</td> <td>> 1 KΩ</td> </tr> </tbody> </table> | | Output | Resistance | 0 to ±1 mA | 0 - 10 KΩ | 1 - 5 mA | 0 - 5 KΩ | 0 - 20 mA | 0 - 1200 Ω | 4 - 20 mA | 0 - 1200 Ω | 0 - 10 V | > 1 KΩ | <p>Surge Withstand</p> <p>5 KV peak test voltage per IEC 60688 and IEC 60521</p> | |
| Output | Resistance | | | | | | | | | | | | | | |
| 0 to ±1 mA | 0 - 10 KΩ | | | | | | | | | | | | | | |
| 1 - 5 mA | 0 - 5 KΩ | | | | | | | | | | | | | | |
| 0 - 20 mA | 0 - 1200 Ω | | | | | | | | | | | | | | |
| 4 - 20 mA | 0 - 1200 Ω | | | | | | | | | | | | | | |
| 0 - 10 V | > 1 KΩ | | | | | | | | | | | | | | |
| <p>Accuracy Class 0.2 per IEC 60688 Class 0.1 optional</p> | | <p>Auxiliary Power Supply</p> <p>Supply Voltage 18 to 72 VDC</p> <p>Power is automatically available when Module is plugged into the Rack. The Rack itself has a single Power Input rated at 18 to 72 V. This is distributed to each Module via the Rack Backplane.</p> | | | | | | | | | | | | | |
| <p>Output Ripple Peak <0.06 % of Reading</p> | | <p>Power Consumption</p> <table border="0"> <tbody> <tr> <td>DAQ-1F-X</td> <td>1.3 W</td> </tr> <tr> <td>DAQ-2F-X</td> <td>2 W</td> </tr> <tr> <td>DAQ-4F-X</td> <td>3.5 W</td> </tr> </tbody> </table> | | DAQ-1F-X | 1.3 W | DAQ-2F-X | 2 W | DAQ-4F-X | 3.5 W | | | | | | |
| DAQ-1F-X | 1.3 W | | | | | | | | | | | | | | |
| DAQ-2F-X | 2 W | | | | | | | | | | | | | | |
| DAQ-4F-X | 3.5 W | | | | | | | | | | | | | | |
| <p>Response Time 100 mSec to 99.9% of reading</p> | | <p>Dimensions</p> <table border="0"> <tbody> <tr> <td>Height</td> <td>173 H (mm)</td> </tr> <tr> <td>Depth</td> <td>122 D (mm)</td> </tr> <tr> <td>Width</td> <td>25 W (mm)</td> </tr> </tbody> </table> | | Height | 173 H (mm) | Depth | 122 D (mm) | Width | 25 W (mm) | | | | | | |
| Height | 173 H (mm) | | | | | | | | | | | | | | |
| Depth | 122 D (mm) | | | | | | | | | | | | | | |
| Width | 25 W (mm) | | | | | | | | | | | | | | |
| <p>Calibration Adjustments</p> <p>The user can perform any adjustments of Span and Zero for calibration or other purposes</p> | | | | | | | | | | | | | | | |

CONNECTION DIAGRAMS



Blank

Blank

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