

**Paladin Transducers**  
**Class 0.2 Series 250**

**Products Covered**

252-X\*\*                      253-XHZ                      256-X\*\*  
 \*\* - any letter or number.

**Introduction**

This Crompton Advantage range of precision transducers converts ac inputs into an industry standard DC signal for monitoring and control use, with accuracy to Class 0.2.

**Electromagnetic Compatibility (EMC) Installation Requirements**

This product range has been designed to meet the certification requirements of the EU Directives when installed to a good code of practice for EMC in industrial environments. e.g.

1. Screen output and low signal input leads. In the event of RF fields causing problems where screened leads can not be used, provision for fitting RF suppression components, such as ferrite absorbers, line filters etc., must be made.
- N.B. It is good practice to install sensitive electronic instruments that are performing critical functions, in EMC enclosures that protect against electrical interference causing a disturbance in function.
2. Avoid routing leads alongside cables and products that are, or could be, a source of interference.
3. To protect the product against permanent damage, surge transients must be limited to 2kV pk.
4. Electro Static Discharge (ESD) precautions must be taken at all times when handling this product.

For assistance on protection requirements please contact your local sales office.

**Installation - General**

Units must be mounted in a reasonably stable ambient temperature within the range 0 to 60°C.

The units must not be mounted where they will be subjected to excessive sunlight and vibration should be kept to a minimum. Connection wires must be sized to comply with local regulations and preferably should be fitted with tags for the terminals provided. Labels are fixed to the units and carry connection-input information. These products do not have internal fuses therefore external fuses **must** be used for safety protection under fault conditions.

**Earth/Ground Connections**

For safety reasons, CT secondary connections should be grounded according to local codes of practice.

**Inputs**

See the data label on the product. The input connection wire must be rated to suit the voltages and currents used and are capable of transmitting at least 30VA continuous.

**Outputs**

See the data label on the product.

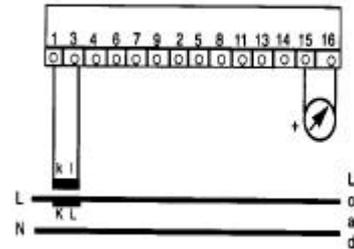
The transducer output produces a current sufficient to drive standard panel meters, computer hardware, relays, etc. The connection wires must be rated to suit the isolation voltage required and be capable of transmitting at least 1 watt. The analogue outputs use the bridge-tied-load (BTL) principle, for a number of technical benefits. Please note that the -ve terminals may not be commoned together, and that the RTU or similar load must have differential inputs.

Outputs a, b and c follow the same order as the product description, e.g.: 256-XRL is a Watt & VAR. & VA transducer. Output terminals a15 and a16 are for the Watt transducer, terminals b15 and b16 are for the VAR. transducer and terminals c15 and c16 are for the VA transducer

**Connection Diagram**

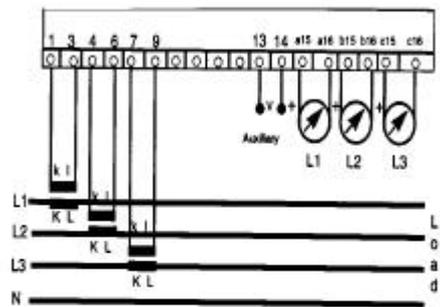
**Type 252-XAA**

**Single Phase Current, self powered**



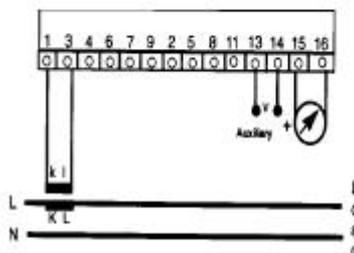
**Type 256-XAS/XAR**

**3 Current, 3 Outputs**



**Type 252-XAS/XAR/XAL**

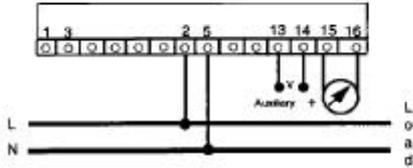
**Single Phase Current**



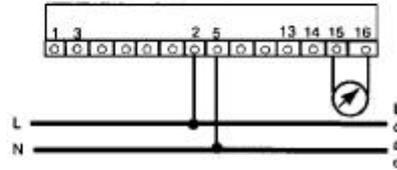
# INSTALLATION INSTRUCTIONS

## Paladin Transducers Class 0.2 Series 250

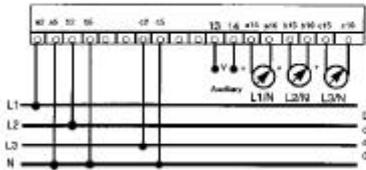
**Type 256-XVL,XVR,XVS,XVZ,XVR,XHL & XHS**  
Single Phase Voltage & Frequency



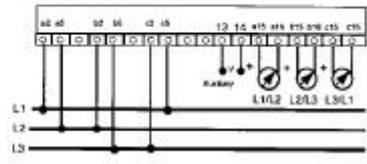
**Type 252-XVA, 252-XHA**  
253 XHZ  
Single Phase Voltage & Frequency Self Powered



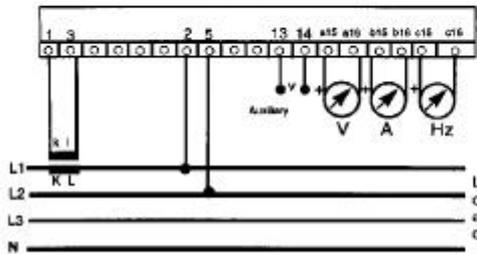
**Type 256-XVL,XVR,XVS,XVZ**  
**Type 256-TVL,TVR,TVS**  
3Ø 4W Voltage, 3 Outputs



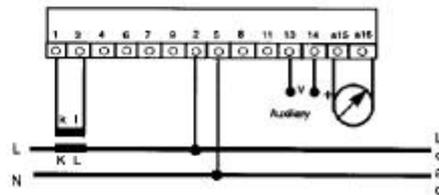
**Type 256-XVU,XVW,XVY,XVX**  
**Type 256-TVL,TVR,TVS**  
3Ø 4W Voltage, 3 Outputs



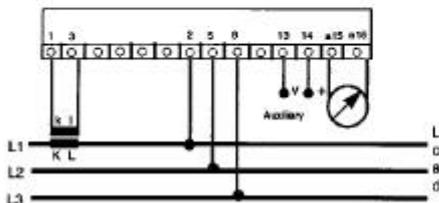
**Type 256-XLK**  
Voltage, Current & Frequency, 3 Outputs



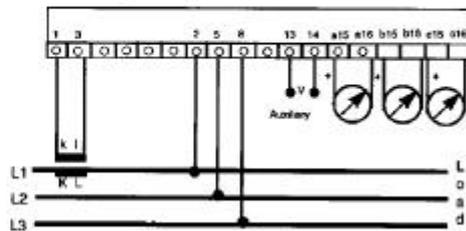
**Type 256-XWK/XXK/XYK/XDK/XEK**  
**XGK/XFS/XFA/XPS/XPA**  
Single phase, Watts or Vars or VA or Phase Angle or Power Factor, Watt & Var: Watt, Var & VA: Watt, Var & Power Factor. One Output



**Type 256-XWL/XXL/XYL/XFW/XFG/XPW/XPG**  
3 Ø 3W balanced load, Watts or Vars or VA or Phase Angle or Power Factor. One Output.



**Type 256-XRL/XSL/XJL**  
3 Ø 3W balanced load, Watt, Var & VA: Watt, Var & Power Factor, 3 Outputs



**Notes on connection diagrams**

- 1) When using more than one item via a Current Transformer, the inputs must be in series.
- 2) Auxiliary supply applies only if ordered. For maximum performance an A.C. or D.C. auxiliary is recommended. Self-powering is achievable for a voltage variation of less than 20%.
- 3) When there is more than one output the outputs are in the sequence of the description i.e. on a Watt, Var & VA transducer, output (a) is Watt, (b) is Var and (c) is VA.
- 4) With multiple analogue outputs, do not comment the -ve terminal.

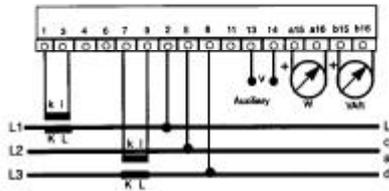
The Information contained in these installation instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, Tyco Electronics has no control over the field conditions, which influence product installation. It is the user's responsibility to determine the suitability of the installation method in the user's field conditions. Tyco Electronics' only obligations are those in Tyco Electronics' standard Conditions of Sale for this product and in no case will Tyco Electronics be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products. Crompton is a trade mark.



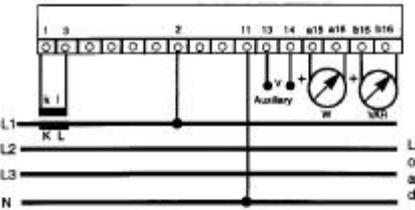
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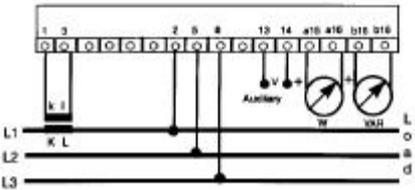
**Type 256-XDM**  
3 Ø 3W unbalanced load, Watt & Var, 2 Outputs



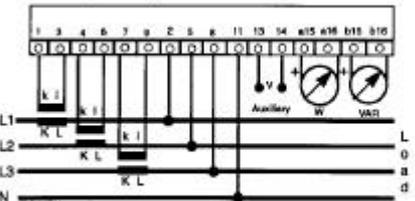
**Type 256-XDH**  
3 Ø 4W balanced load, Watt & Var, 2 outputs



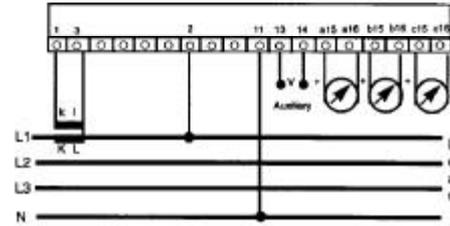
**Type 256-XDL**  
3 Ø 3W balanced load, Watt & Var, 2 Outputs.



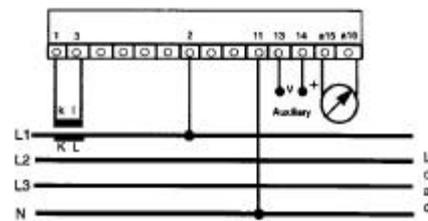
**Type 256-XDW**  
3 Ø 4W, unbalanced load, 3 elements  
Watt & Var, 2 Outputs



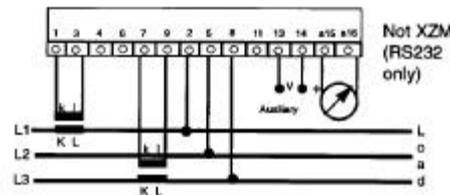
**Type 256-XRH/XSH/XJH**  
3 Ø 4W balanced load, Watt, Var & VA: Watt, Var & Power Factor, 3 outputs



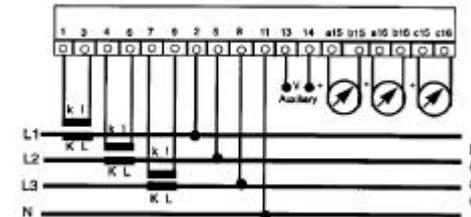
**Type 256-XWH/XXH/XYH/XFV/XFD/XPV/XPD**  
3 Ø 4W balanced load, Watts or Vars or VA or Phase Angle or Power Factor. One Output.



**Type 256 XWM/XXM/XYM/XZM/XFU/XFC/XPU/XPC**  
3 Ø 3W unbalanced load, Watts or Vars or VA or Phase Angle or Power Factor. One Output



**Type 256-XWE/XXE/XYE/XFE/XFF/XPE/XPF**  
3 Ø 4W, unbalanced load, 3 outputs  
Watts or Vars or VA or Phase Angle or Power Factor



**Notes on connection diagrams**

- 1) When using more than one item via a Current Transformer, the inputs must be in series.
- 2) Auxiliary supply applies only if ordered. For maximum performance an A.C. or D.C. auxiliary is recommended. Self-powering is achievable for a voltage variation of less than 20%.
- 3) When there is more than one output the outputs are in the sequence of the description i.e. on a Watt, Var & VA transducer, output (a) is Watt, (b) is Var and (c) is VA.
- 4) With multiple analogue outputs, do not comment the -ve terminal.

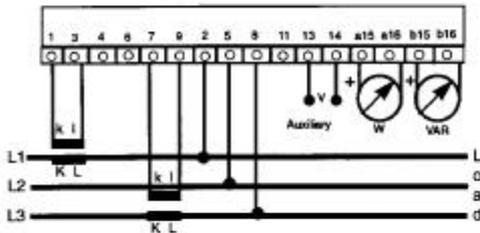
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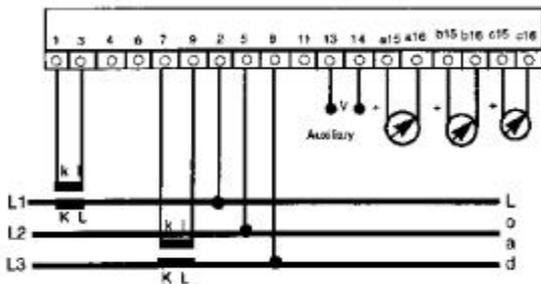
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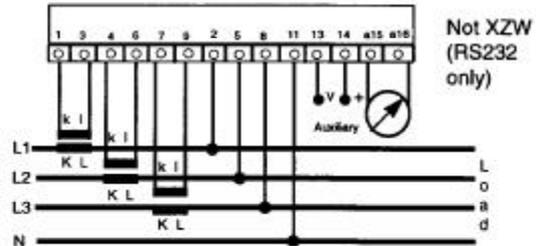
### Type 256-XDM 3 Ø 3W unbalanced load, Watt & Var, 2 Outputs



### Type 256-XRM/XSM/XJM 3 Ø 3W unbalanced load, Watt, Var & VA: Watt, Var & Power Factor, 3 Outputs



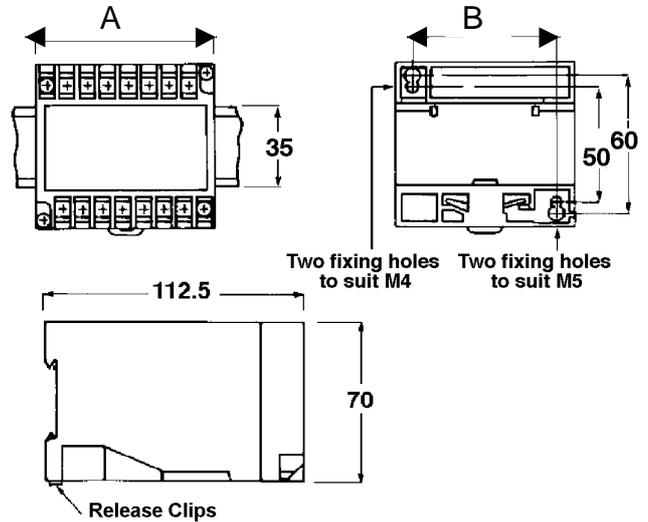
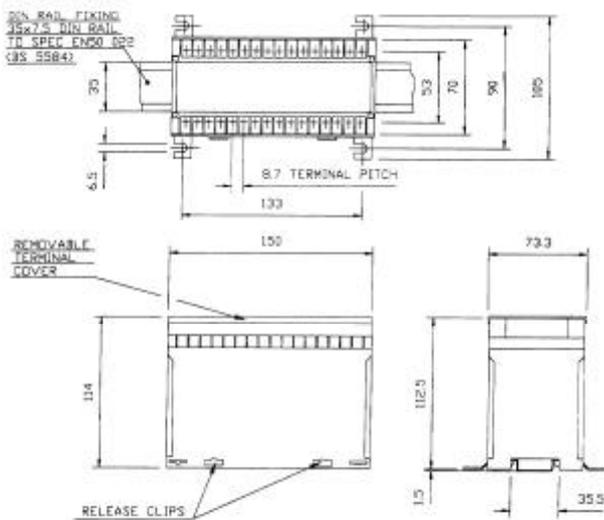
### Type 256-XWW/XXW/XYW/XZW XFT/XFB/XPT/XPB 3 Ø 4W, unbalanced load, 3 elements Watts or Vars or VA or Phase Angle or Power Factor. One Output



**LOW VOLTAGE DIRECTIVE:-** This product complies with BSEN61010-1

#### WARNING

Voltages dangerous to human life may be present at some of the terminals of this unit. Ensure all supplies are de-energised before attempting any connection/disconnection. If it is necessary to make adjustments with the power connected then exercise extreme caution. This product is manufactured by Crompton Instruments, Freebournes Road, Witham, Essex, England CM8 3AH. Telephone +44 (0) 1376 509509, Fax: +44 (0) 1376 509511.



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**Paladin Transducers  
Class 0.2 Series 250  
Signal Isolator**

**Installation**

The 250-ISA Isolator is a 2-wire loop isolator that requires no external power supply. The device accepts d.c. mA inputs with a range of  $0 \leq 20\text{mA}$  and provides an isolated output current directly proportional to the input signal.

The unit should be mounted in a reasonably stable ambient temperature within the range of  $-25$  to  $+60^\circ\text{C}$ .

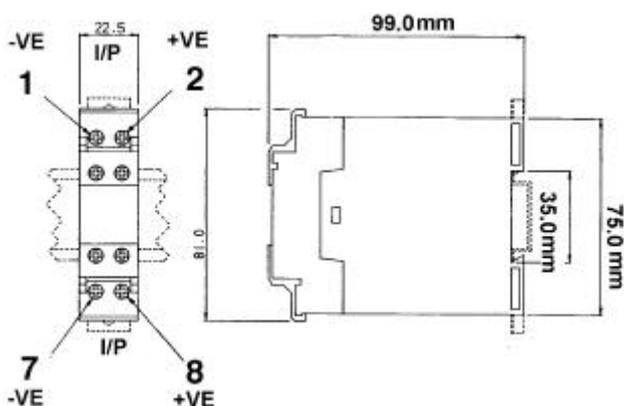
Connection wires should be sized to comply with local regulations and preferably should be fitted with tags for terminals provided.

**Electromagnetic Compatibility**

This unit has been designed to provide protection against EM (electro-magnetic) interference in line with requirements of EU and other regulations. Precautions necessary to provide proper operation of this and adjacent equipment will be installation dependent and so the following can only be general guidance:-

- Avoid routing wiring to this unit alongside cables and products that are, or could be, a source of interference.
- The auxiliary supply to the unit should not be subject to excessive interference. In some cases, a supply line filter may be required.
- To protect the product against incorrect operation or permanent damage, surge transients must be controlled. It is good EMC practice to suppress differential surges to 2kV or less at the source. The unit has been designed to automatically recover from typical transients, however in extreme circumstances it may be necessary to temporarily disconnect the auxiliary supply for a period of greater than 5 seconds to restore correct operation.
- Screened communication and small signal leads are recommended and may be required. These and other connecting leads may require the fitting of RF suppression components, such as ferrite absorbers, line filters etc., if RF fields cause problems.
- It is good practice to install sensitive electronic instruments that are performing critical functions in EMC enclosures that protect against electrical interference causing a disturbance in function.

**Connection Diagram**

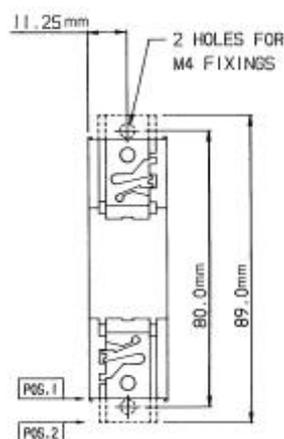


**Dimensions**

**Mounting Details**

Position 1 – Din top hat rail mounting (DIN EN50022-35)

Position 2 = Screw mounting to suite M4 fixings.



**LOW VOLTAGE DIRECTIVE:** This product complies with BSEN61010-1

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