

I-Pump starCOUPLER

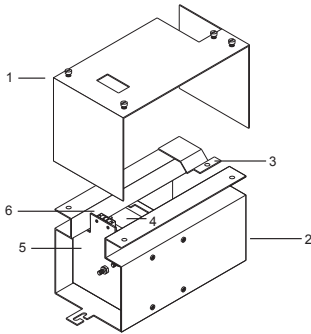
User Manual

starCOUPLER is required where the I-Pump communicates over power cables. It permits the Transceiver to connect to the Star (wye) point of the 3 Phase Supply to the ESP.

For Delta-connected supplies and Switchboards (again these have no wye point accessible) a balanceCOUPLER upgrade is required.

Designed to be freestanding this unit can be installed inside the transformer terminal box or a separate enclosure. Covers are grounded and manufactured from galvanised steel.

Removal of the Safety Circuit permits the starCOUPLER to be insulation tested.



- 1 top cover with thumbscrews
- 2 base cover with integral mounts and earth tab
- 3 wire entry grommet
- 4 inductor with integral connection stud
- 5 safety circuit
- 6 3 way connector (to Transceiver)



Warning – Lethal Voltages Present

Transceiver connects, via couplers, to the High Voltage Supply to the ESP. Only personnel trained in High Voltage Equipment and Operations should access this equipment.

Warning – Voltages Present

Module outputs 200Vdc to ESP cable. Remove power to Transceiver prior to working on ESP 3-Phase Supply (a-well coupler, switchboard motor connections, junction box, well head connector).

Warning – Meggering

Disconnect when meggering downhole or at surface.

Be Safe – Be Sure

If in doubt seek advice from Autonomous Well: help@a-well.com

I-Pump System

I-Pump from Autonomous Well is a flexible and complete gauge system for ESP wells. Available as component parts for third party gauge manufacture or on-site repair, as well as complete systems I-Pump is unmatched in practicality, cost of use and its diversity of measurements.

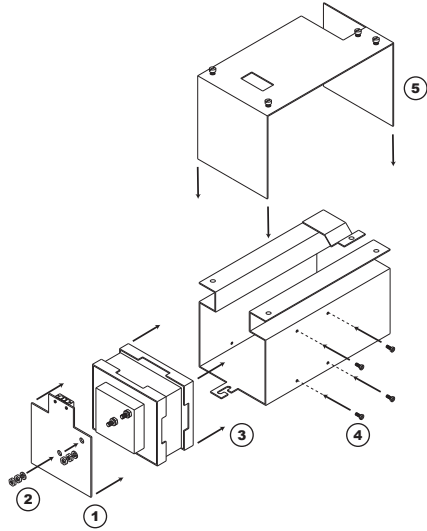
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Assembly

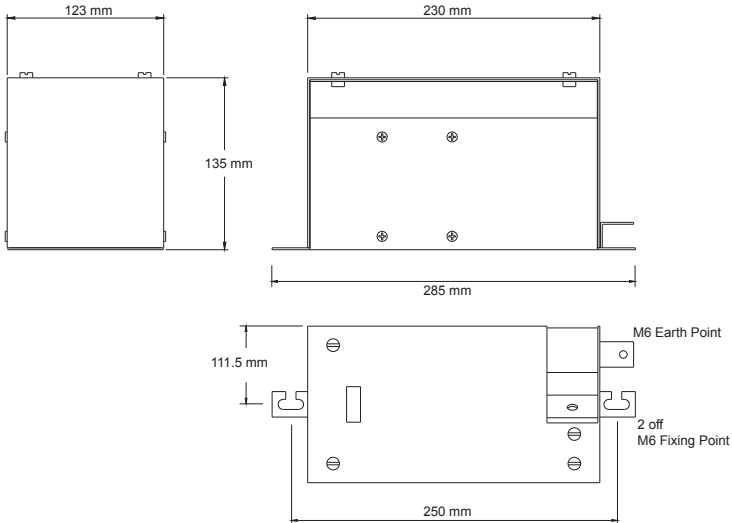
starCOUPLER is a supplied assembled as shown below.

- 1 attach Safety Circuit to inductor
- 2 secure Safety Circuit using fixings
- 3 locate inductor into base frame
- 4 secure inductor using 8 off self-tapping fixings
- 5 secure down top cover



Mounting

starCOUPLER is designed to be free-standing or mounted (via rear mounts) to an enclosure. In most application the starCOUPLER is simply located free-standing inside the Step Up Transformer Secondary Cable Box.



Safety Circuit

The circuit which is attached to the bottom of the inductor is a Safety Circuit. It must always be fitted to the inductor whilst operating the equipment.

Connections

starCOUPLER has three sets of connections.

Ground Connection

This is an M6 Stud on the Top Left of the StarCoupler.

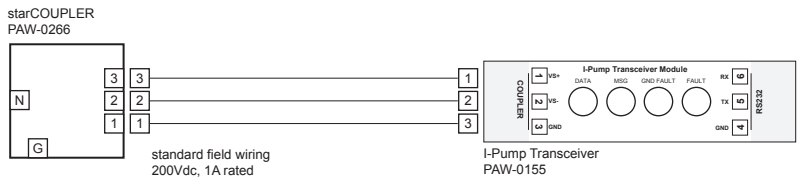


WARNING

Ground Connection is both a Safety (Protective) and Signal Ground. It must be connected as a Protective Ground to prevent a Lethal Hazard

Transceiver Cabling: Coupler LV Wiring

On top of the Safety Circuit, and accessible when the top cover is in place, is a three way connector. This wires to the Transceiver Module.



Star (Wye) Point HV Connection

starCOUPLER has an M6 stud on the top of the inductor. This is wired to a system neutral (either a wye connected transformer or a balanceCOUPLER). This link must be fused at source using a 3kV, 1/8 A fuse.

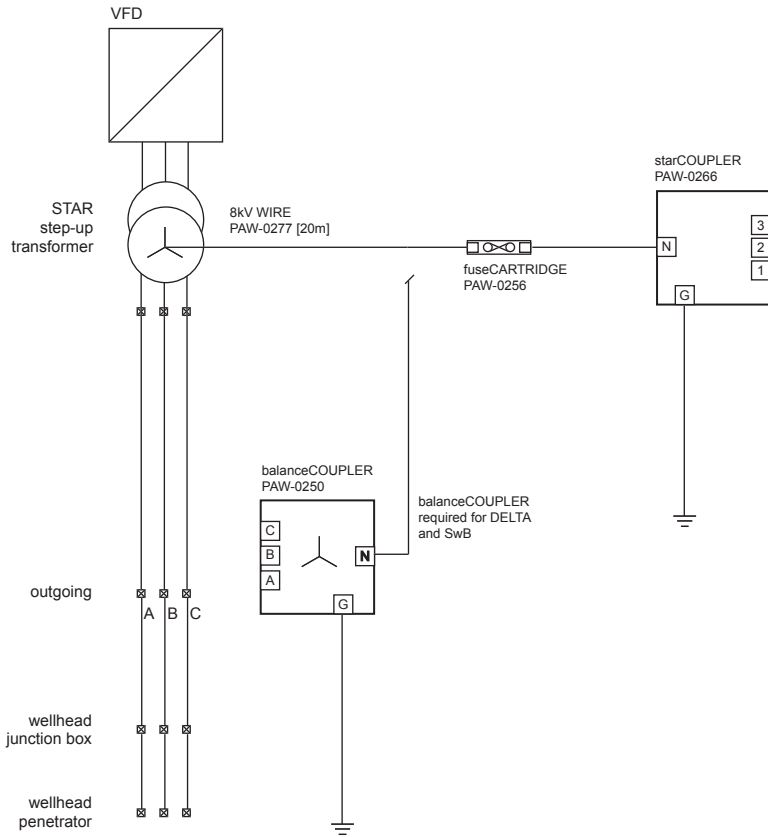
It is likely you purchased the starCOUPLER as a pack with a fuseCARTRIDGE and 3 metres of earth cable and 3 metres of 8kV, 18 AWG instrument wire. If not, ensure your wiring and fusing is rated for the duty.

Delta Connected Transformers and Switchboards

Switchboards do not have Star (Wye) Points. Some transformers may be connected in Delta. In these situations (or the Star Point is not accessible) a Star Point must be created using a 3 Phase In-

ductor/ Transformer. Autonomous Well have a balanceCOUPLER if required. This upgrade coupler mounts next to the starCOUPLER.

In this arrangement the Transceiver is still connected via the 3 wire harness to the starCOUPLER.



Specification

Document	PAW-0281 [Copy]
Product	starCOUPLER
Part Number	PAW-0266
General	High voltage coupler for I-Pump ESP Sensor. Coinnect to GND and supply NEUTRAL/ STAR/ WYE via inline medium voltage (3kV) 1/8A fuse. Connect to I-Pump Transceiver (3-wire 200Vdc).
Mounted Dimensions	230x125x142 mm
Weight	5.0 kg
Voltage Rating	3kV (5kV 3 Phase)
Current Rating	1/8 A (fuse externally)
Environment	IP30 Operating -40 - +85C

Autonomous
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Specification

Document	PAW-0320
Product	fuseCARTRIDGE
Part Number	PAW-0256
Description	Instrument rated 5kV inline fuse holder for BUSSMANN HVJ Series fuses, specifically HVJ1/8 fuses as used with I-Pump couplers.
Mounted Dimensions	30 mm dia x 285 mm
Weight	0.X kg
Voltage Rating	5kV 10kVdc flash test
Current Rating	1A max
Wire Specification	18AWG/ 2mm dia. Max Conductor 3.5mm Insulation Diameter [10mm Dia Max Insulation if Body Drilled Out]
Environment	IP30 Operating -40 - +85C
Accessories	PAW-0277: 25m HV Wire PAW-0038: HVJ 1/8 Fuse (10 off)

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