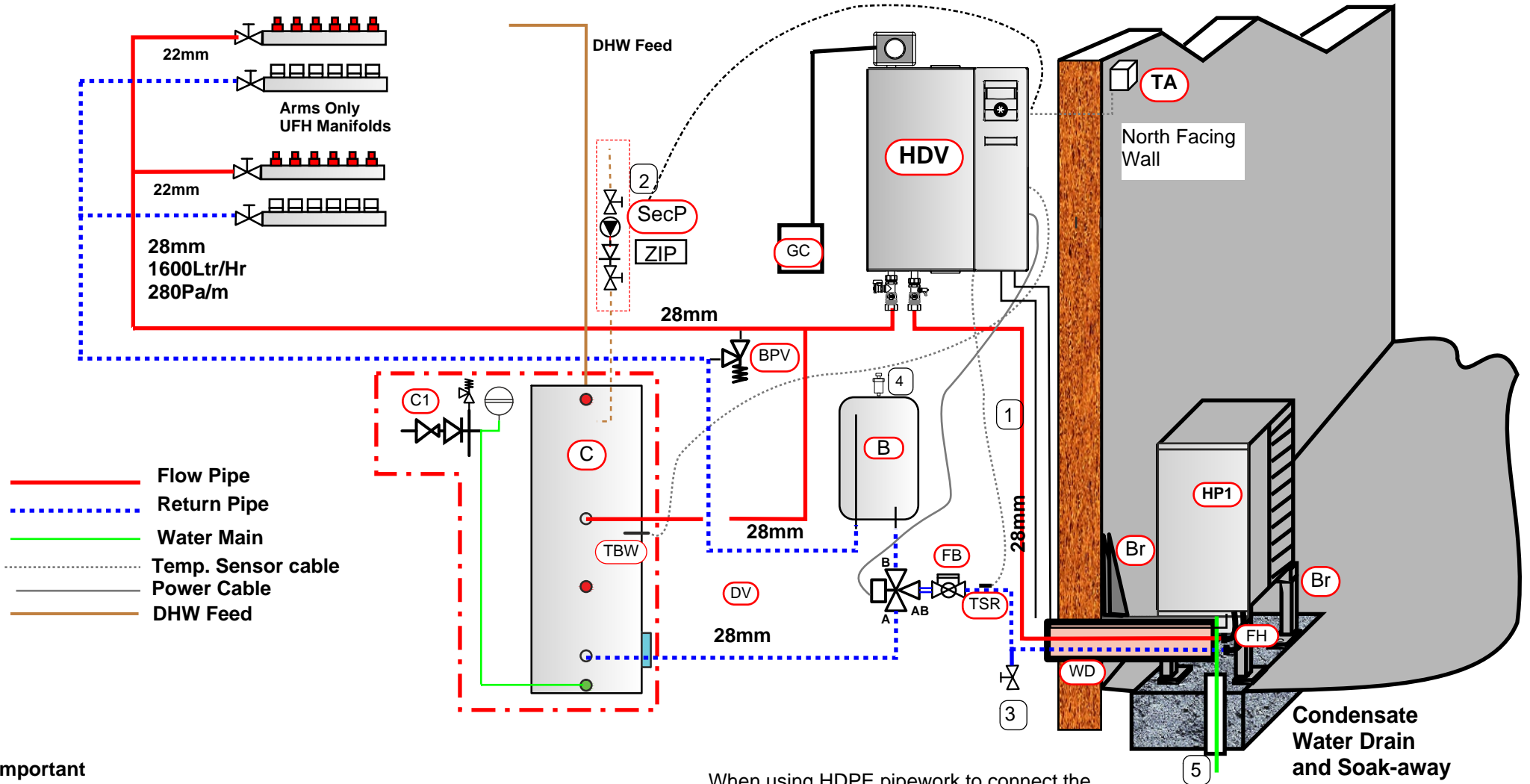


Pack 3 Hydraulic Schematic



Important

These guides are intended to compliment the instructions given in the Operating Manuals supplied with the heat pump.

See page 2 for details of supply and installation
See page 3 for wiring guide

The system must be filled with antifreeze mixture freeze protection to -10degC. Premixed solution with inhibitors can be supplied by Omnie ready for use.

When using HDPE pipework to connect the outdoor unit 32mm is suitable up to 10m separation. Pre-insulated/ducted pipe is recommended buried to a depth of 700mm and bedded in sand. Cables should be run in plastic duct with the LINBUS cable in a separate duct 100mm separation.

Start-up Guide Hydraulic Number 102



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Pack 3 Details of supply and installation

System Components

Items Included in the Pack

HP1 - Outdoor Heat Pump unit	1 x LWD91-9-1/3
HDV - Hydraulic Module	1 x HDV 9 1/3
B - Buffer Tank	1 x WPS61
TA - Outdoor Temperature Sensor	1 x Included in HDV
BPV - By-Pass Valve 3/4"	1 x UVD3/4"
Br- Wall/Floor Mountings (Pair)	1 Pair (Choose)
DV - 3 port Diverter Valve	1 x USV1"
FH - Flexible Hoses 1"	1 x IPW1"
C - DHW Cylinder Inc. Group Set C1	1 x TIM xxx
THW - DHW Temp. Sensor	1 x FSW
FB - Strainer Isolation Valve	1 x Filterball LKK522-1"F

Essential items listed in Quote Options - available from Omnie or by others

WD - Wall Duct	1 x WDF (Wall Penetration Kit)
GC - Glycol Catcher	1 x SOL-DCVS

Essential Items to be Supplied By Others

- 1 - All interconnecting Pipe, fittings, clips and insulation
 - 2 - DHW Secondary Return Pump
 - 3 - Drain Valve ¾ BSP
 - 4 - Auto Vent
 - 5 - Defrost Drain 40mm Pushfit plastic
 - 6 - Extended cables for power and sensors
 - 7 - Electrical isolators and circuit breakers
- The list is not extensive, refer to the Quote or Delivery note for full details of included items.

Electrical Items/Voltage, terminals on the control PCB

Sensors

TA = Ambient/Outdoor Temperature Sensor (Low Voltage)
TSR = Temperature Sensor Return (Low Voltage)
TBW = DHW Temperature Sensor (Low Voltage)

Pumps and Valves

DV = Diverter Valve Actuation Terminal 230V
SECP = Secondary Circulation pump 230V

If extending the pre wired cables from the LWDV unit use suitable cable for the conditions.

The LIN Bus cable can be extended using SY 3 core 0.75mm² Use the braid as the screen with continuity through to the HDV plug X200 connect the braid to terminal 3

Refer to the Operating Manuals for detailed information on installing the system. Each main item has it's own manual. See the main and supplementary manuals for the LWD and H(D)V. The set of Operating Manuals must be left on site for the end user.

Hydraulic Module -

Pipe sizes are provided for guidance only. The sizes given are for copper tube, if using an alternative use the equivalent bore size. If the external runs are longer than 5m calculate the pressure drop using the Pa/m data provided. If the resultant total pressure drop is greater than 5kPa use the next pipe size up. Avoid a large number of elbows and "T"s, use pulled bends where possible.

All pipework must be well lagged, recommended 19mm wall thickness closed cell foam. Tape up slit pipe lagging, elbows and valves. Protect all external lagging from UV, rodent and bird damage. External lagging must be waterproof.

The pressure relief on the HDV must be run to a catchment vessel not to main drains. Glycol solution would be discharged in the event of a high pressure incident or when testing. This can be returned to the system if clean.

Enter the Hydraulic Diagram Number (102) in the Start up Guide at start-up.

Attention

This schematic is provided as a guide to the function of the heat pump system. It shows the general arrangement of the system components and is not a full system design. The installer is responsible for the final as installed design as fits the needs of the application and that the complete heating system complies with all statutory regulations and industry standards.

Isolating valves, pipe brackets, vents, filling flushing and drain points may have been omitted for clarity of function.

The safety devices shown are indicative only and the installer is responsible for ensuring that the system complies with all statutory regulations and that it functions in a safe and efficient manner.

Frost Protection and System Cleanliness are both vital to the longevity of the system. Fill the system initially with water to flush out debris and to hydraulically pressure and leak test. After disinfecting the system with biocide fill with premixed antifreeze solution. Omnie recommend a propylene glycol/demineralised water solution with inhibitors. This can be ordered from Omnie in 20ltr drums. System failures caused by scaling or freezing may invalidate the heat pump warrantee.

The logo for Omnie, featuring the word "OMNIE" in a bold, white, sans-serif font on a dark blue rectangular background.

Pack 3 - LWDV91-1/3 HDV

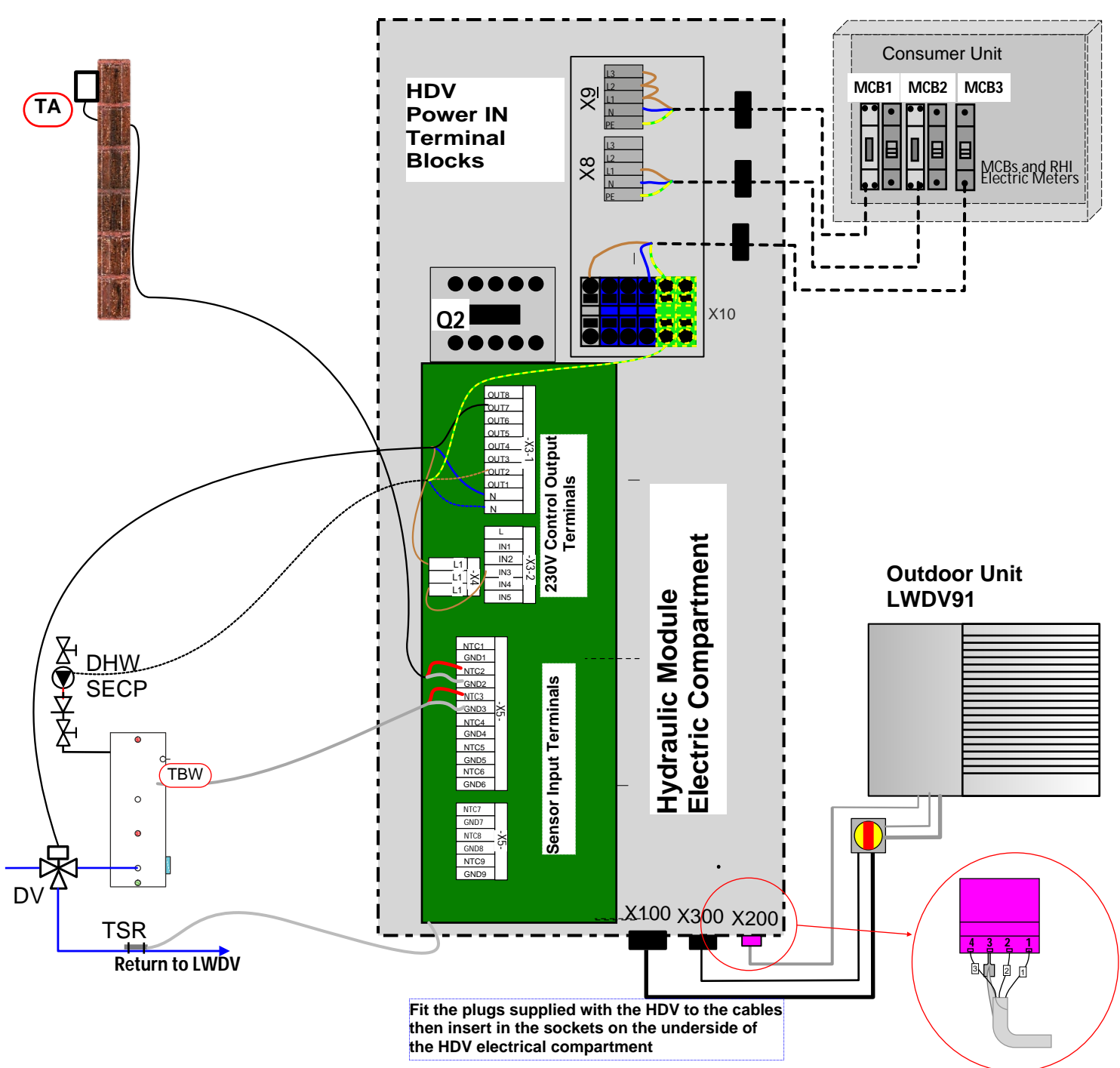
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Pack 3 Wiring Guide



Legend

Consumer Unit
 MCB1 Back up Heater MCB 25A Type B
 MCB2 Compressor 1 MCB 16A Type B
 MCB3 Control Circuit MCB 16A Type B

Power Supply Input Terminals
 X8 - HP 1 Compressor Supply 230V 16A
 X9 - Back up Heater Supply 230 V 25A
 X10 - Controls Supply 230V 230V 16A

230V Control Out Terminals
 Out 2 - Secondary Circulation Pump 230V 2.0A
 Out 7 - DHW Diverter Valve SW live 230V 0.5A

NTC Sensor Input Terminals
 NTC2/GND2 - TA - Outdoor Temp. Sensor
 NTC3/GND3 - TBW - DHW Cylinder Temp. Sensor

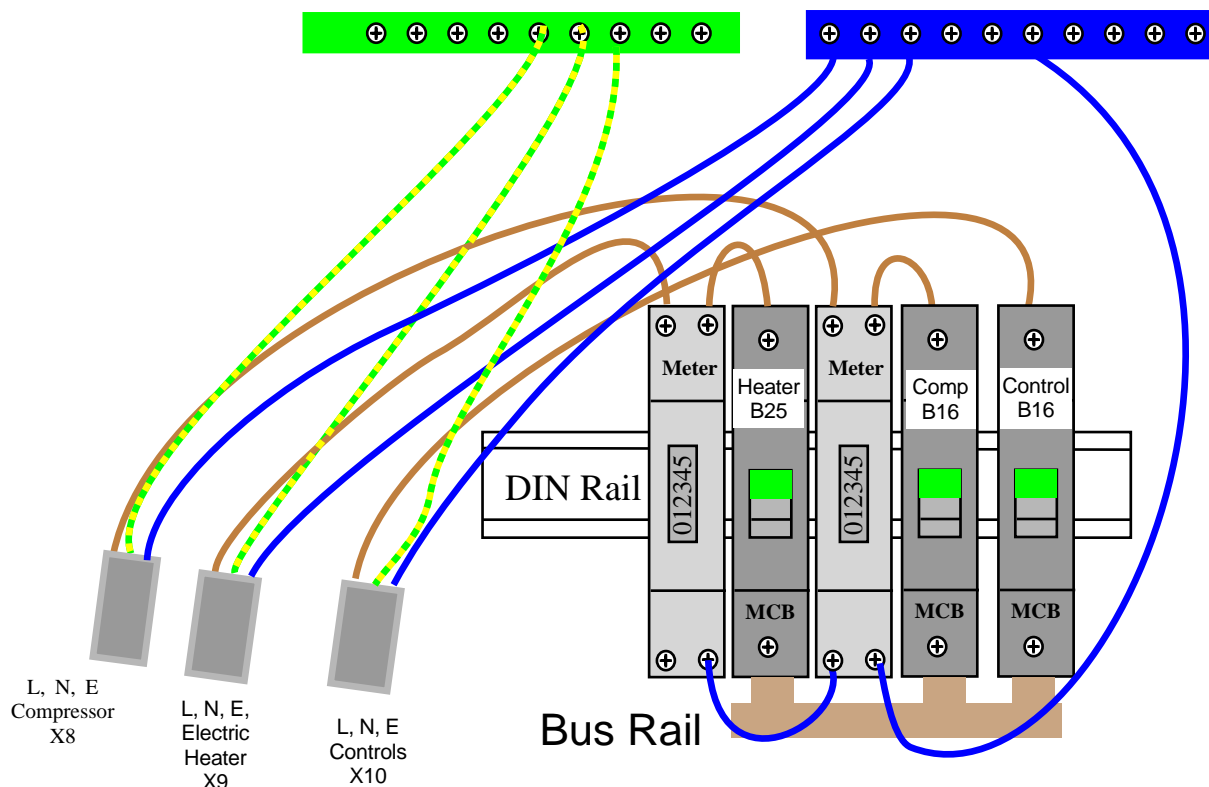
Outdoor Unit Terminal Plugs
 X100 Compressor Socket/Plug L, N, E 2.5mm²
 X200 LINBus Data Socket/Plug 3 core 0.75mm²
 X300 Control Socket/Plug L,N, E 1.5mm²

Note
 The Return Temperature Sensor TSR is pre-wired on the HDV unit,
 The DHW sensor is supplied loose.
 The Outdoor Temperature Sensor TA, is inside a IP67 box and packed with the HDV accessories, use 0.75mm² 2 core flex, site supplied.

Fit the plugs supplied with the HDV to the cables then insert in the sockets on the underside of the HDV electrical compartment



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RI-18-45-P 230V 5(45)A LCD Electric Meter Installation

For compliance with the RHI “Metering for Performance” rule electric meters must be fitted to the supplies of the heat generating devices.

The illustration shows the meters fitted in the consumer unit next to the MCBs for the load being recorded. The meters could alternatively be located in a separate box if there are no spare ways in the consumer unit. The live from the MCB should connect to terminal 1 on the meter and the live to the load to terminal 2.

All electrical wiring must be carried out by a qualified installer to BS EN 7671 latest edition. The installer must ensure that the meters and installation are safe and fit for purpose. No responsibility is accepted by Omnie for damage or injuries associated with this guide.

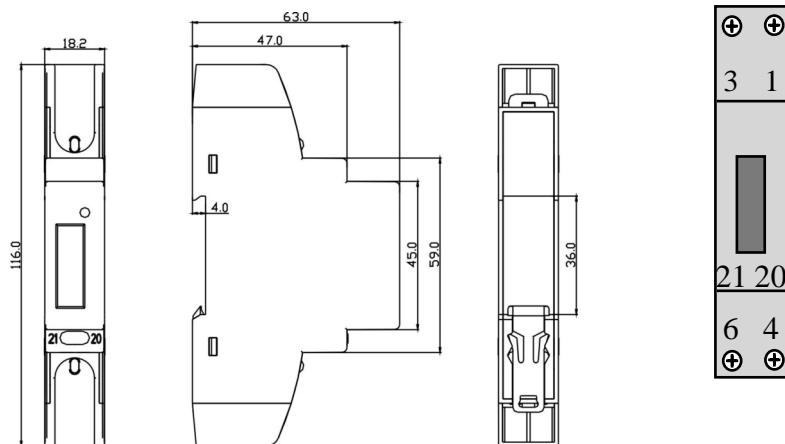
The meters must be labelled as should the MCBs.

The meters supplied by Omnie are rated at 45A 230V which is sufficient for all single phase heat pumps.

The meters can be connected to a remote monitoring system:- pulsed output at terminals 20-21. Find further information from the monitoring device supplier.

See also RHI and MCS guides to metering.

RI-D175-C Instructions are on the next page.



RI-18-45-P 230V 5(45)A LCD

1 Live In	3 Live Out
4 Neutral	6 Neutral
21 Pulse -	20 Pulse +

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Pack 3 - LWDV91-1/3 HDV

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