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Setting up the master/slave function Power Distribution Unit (PDU)

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1 Notes on documentation

Master/slave mode is available as an option with the following active PDU variants from software version 7.17.20 onwards:

- PDU metered
- PDU metered plus
- PDU switched
- PDU managed:

For simplicity, these variants are collectively referred to as “PDU” below.

2 Master/slave mode of the PDU

Essentially, the PDU can be operated in two different modes: Master/slave mode and standalone mode. In its supplied state, the PDU is always configured for “standalone mode”. In master/slave mode, up to three further PDUs (slaves) may be connected to one master PDU. In this way, all values, settings and switching operations for the slave PDUs can be managed from the master PDU using a single Ethernet connection (i.e. one IP address). This also applies to the protocols SNMP, OPC UA, and Modbus TCP.

All data communication is encrypted. **Figure 1** illustrates connection of the devices:

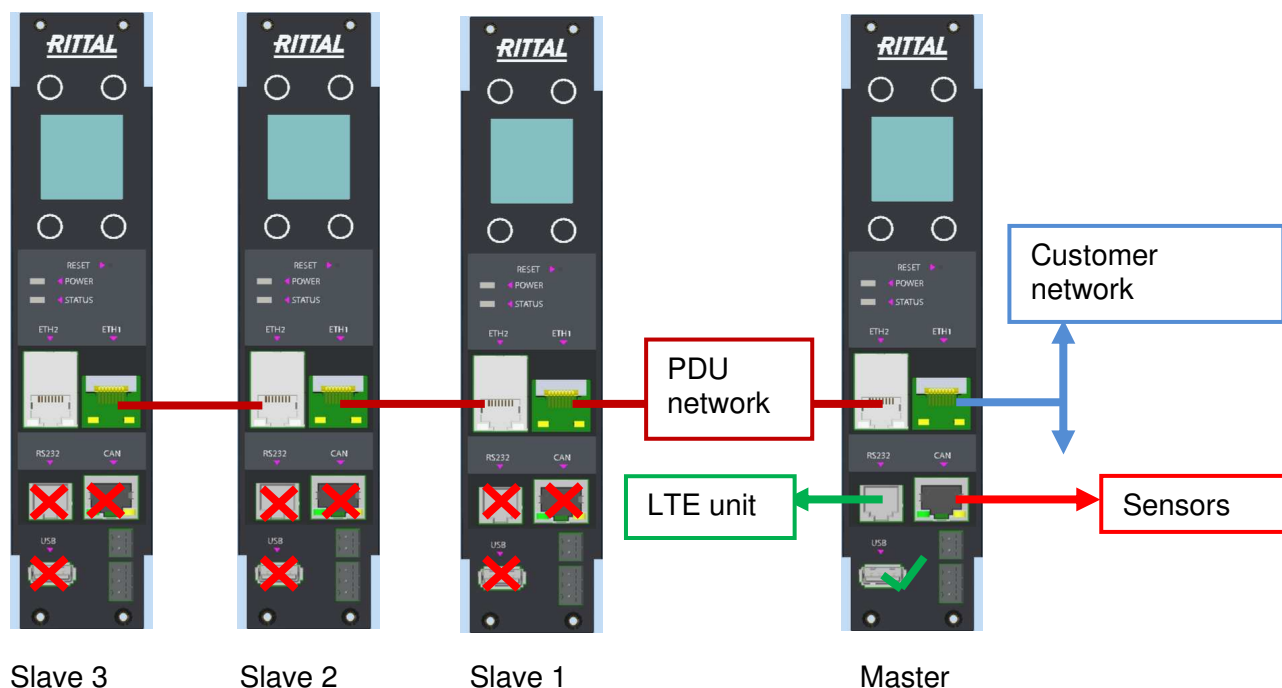


Figure 1: Connecting master/slave devices

In master/slave mode, the interfaces of the PDUs have the following properties:

Master PDU:

The bridge function between the two Ethernet interfaces is deactivated. The device then has two independent Ethernet interfaces, each with their own MAC address. The first interface (ETH1) is connected to the company network, while the second interface (ETH2) is connected to the first slave PDU.

Slave PDU:

The bridge function between the Ethernet interfaces is activated. The slave PDUs are connected directly via ETH1 or ETH2 of the slave (without using the customer network).

IP addresses:

The IP addresses of the slave PDUs and Ethernet interface 2 of the master PDU (connection to the slave PDUs) are predefined. The IP address of the master device's Ethernet interface 1 can be prescribed by the customer network via DHCP or set via the website or on the display. The IP addresses can be viewed on the display screen by selecting "Settings - Controller information".

Further information:

- Power over Ethernet (PoE) is only available on the first network interface of the master device (for variants that support PoE). USB, RS232 and the CAN interface are only supported on the master PDU.

- Alarm relay: The alarm relay of the slave PDUs can be activated from the master PDU.

2.1 Master/slave configuration of the PDU

The operating mode, or "master/slave mode", must be defined or edited for each PDU via the integral display. The following settings can be made here:

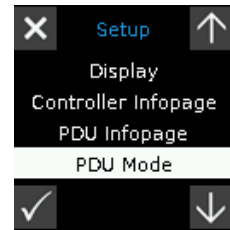
- (Standalone)
- Master
- Slave 1
- Slave 2
- Slave 3

Setting up the master/slave function of the PDU

The PDUs are then paired via the master PDU. Once a PDU has been defined as a master or slave, all previous device settings will be lost.

Defining master/slave mode:

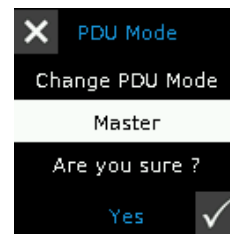
- From the display, navigate from the “Rittal” menu item ► Setup and select “PDU mode”. After selecting this entry, you will be asked to confirm it by entering the PIN code.



- From the “PDU mode” menu item, you can now select the operating mode (“Standalone”, “Master” or “Slave”).



- Always configure the Master PDU first.



To configure the slave PDUs, repeat the above procedure and define the PDUs as “Slaves”. The system supports the operation of up to three slave PDUs with one master PDU.

After defining the operating modes for all PDUs, you will need to link the devices together (known as “pairing”). This is done from the “Master PDU” menu.

Setting up the master/slave function of the PDU

- From the display, navigate from the “Rittal” menu item ► Setup and select “PDU Pairing”. To launch the pairing process, you will be asked to enter the PIN code.



- After entering the PIN code, the pairing process will begin. Please wait until all PDUs have been paired (in this example, there are two slave PDUs plus the master PDU).

If pairing has been successful, a magenta-coloured symbol “S1”, “S2” or “S3” will appear in the slave PDUs. If unsuccessful, or if the connection is lost, the symbol will be greyed out. A magenta-coloured “M” symbol will appear in the master PDU once it has been set up successfully.

Further information:

- Once a slave PDU has been paired with a master PDU, it can no longer be connected to a different master PDU. To do so, you will need to reconfigure the slave PDU by following the steps outlined above under “Defining master/slave mode”.
- **Software updates** for the slave PDUs are distributed via the master PDU. The master PDU must be updated first. For further information, please visit www.rittal.com or contact your Rittal Service team. The software updates will subsequently be distributed automatically among the slave PDUs.

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