PDP601

Distributed Processing Unit

PUBLISHED IDENTITY

METSO PDP601 is a maxDPU MR distributed processing unit for the maxDNA control system. It executes process control, data acquisition and Model IOP processing while linking the installed rack to maxNET.

Technical snapshot

Product type	maxDPU MR distributed processing unit
Hardware identifier	LD181585
Control-system family	maxDNA
Operating system	Linux
Control processor	Intel Atom
I/O processing	Dedicated FPGA with 32-bit Altera NIOS processor
SD Flash	Minimum 2 GB industrial-grade removable media
Execution scheduling	10 ms to 0.5 s

Verified related ApterPower product pages

METSO IOP301 isolated analog input module

METSO DPU-MR processing unit

Engineering data

Official evidence organized for exact-model review

Product type	maxDPU MR distributed processing unit	**maxNET interfaces**	Two independent 100Base-T Ethernet ports
Hardware identifier	LD181585	**I/O Link**	10/100 Base-T Ethernet port
Control-system family	maxDNA	**Backup link**	1000 Mbps Ethernet with Category 6 cable LD049228
Operating system	Linux	**Supply**	24 VDC +/- 4 VDC
Control processor	Intel Atom	**Current**	1.5 A at 24 VDC
I/O processing	Dedicated FPGA with 32-bit Altera NIOS processor	**Operating temperature**	0 to 60 C
SD Flash	Minimum 2 GB industrial-grade removable media	**Storage temperature**	-25 to 70 C
Execution scheduling	10 ms to 0.5 s	**Relative humidity**	5 to 90 percent, non-condensing
Control capacity	Up to 8,000 control objects	**Rack placement**	One maxPAC slot; use the approved left-most DPU position

EVIDENCE BOUNDARY

Confirm the complete METSO PDP601 / LD181585 identity, maxPAC rack position, network cabling, backup-pair role and current configuration before replacement or commissioning.

Applications and system role

Four distinct documented operating contexts

PROCESS-CONTROL EXECUTION

Runs scheduled control objects and calculations in a maxDNA process-control domain.

MODEL IOP COORDINATION

Scans and processes the installed maxPAC Model IOP data path through the dedicated I/O processor.

REDUNDANT MAXNET NODE

Connects independently to maxNET Network A and Network B for control-system communications.

HOT-STANDBY OPERATION

Exchanges database information across the dedicated backup link when configured as an approved DPU pair.

Integration control

Install PDP601 in the approved left-most rack position for airflow, preserve its DPU name, IP configuration and SD Flash database, and maintain the documented Network A, Network B, I/O Link and backup connections. Commissioning confirms processor health, IOM and I/O status, network states, backup readiness and cleared alarms.

Verified related ApterPower product pages

ABB PM864AK01 processor unit kit

ABB CMA130 display front panel

Technical questions

Complete model-specific answers from the approved evidence set

What system role does METSO PDP601 perform?

METSO PDP601 performs the distributed process-control, data-acquisition and I/O-processing role within a maxDNA control-system cabinet.

Which hardware identifier belongs with the PDP601 model?

The manufacturer guide maps model PDP601 to hardware identifier LD181585.

How does METSO PDP601 process control and I/O workloads?

METSO PDP601 uses an Intel Atom control processor and a dedicated FPGA-based I/O processor to separate control execution from I/O scanning.

What supply and environmental limits apply to PDP601?

PDP601 requires 24 VDC +/- 4 VDC at 1.5 A and operates from 0 to 60 C at 5 to 90 percent non-condensing relative humidity.

Which Ethernet interfaces are provided on METSO PDP601?

METSO PDP601 provides two independent 100Base-T maxNET ports, one 10/100 Base-T I/O Link port and one 1000 Mbps backup port.

Where should PDP601 be installed in the maxPAC rack?

PDP601 should occupy the approved left-most DPU position so that the installed arrangement maintains the documented airflow path.

How is a PDP601 replaced in a configured backup pair?

The technician must stabilize the remaining unit, disable backup, preserve or prepare the SD Flash, restore the recorded cables and then warm the replacement as the inactive DPU.

What confirms successful commissioning of METSO PDP601?

Successful commissioning requires healthy Network A and B states, valid backup status, acceptable IOM, I/O, CP and State indications, and cleared system alarms.

Product precautions

Eight aligned controls before return to service

1. Record the complete PDP601 and LD181585 marking, rack position and active or inactive role before work.
2. Place the affected process in its approved maintenance state and resolve severe alarms on the unit that will remain in service.
3. Disable backup before removing a PDP601 from a configured redundant pair.
4. Record Network A, Network B, I/O Link, backup cable, mode-switch position and all installed connectors.
5. Preserve the approved SD Flash or prepare the replacement with the correct DPU name, IP settings and controlled configuration.
6. Maintain at least a 1 inch cable bend radius and connect the backup and I/O Link cables only to their documented ports.
7. After insertion, verify the Linux boot sequence, front-panel diagnostics and absence of unexplained alarms.
8. Enable and warm the standby unit as required, then verify network, IOM, I/O, CP and State indications before release.

Verified related ApterPower product pages

- Honeywell FC-IOCHAS-0001R I/O chassis
- HIMA F7131 power-supply monitoring module
- Emerson KJ3222X1-BA1 HART input card
- Schneider Electric 140XBE10000 rack expander

Evidence and support

Manufacturer references, related products and direct contact

Manufacturer evidence used

- Model PDP Series 600 maxDPU MR User's Guide, publication 278740 Rev. A7.
- Manufacturer sections for hardware identity, interfaces, installation, replacement and status diagnostics.

Verified related ApterPower product pages

Bently Nevada 330180-X1-05 Proximitor Sensor

General Electric 531X111PSHAPG3 power supply card

Schneider Electric 140DDM39000 mixed I/O module

Honeywell SC-UCNN11 ControlEdge RTU controller

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