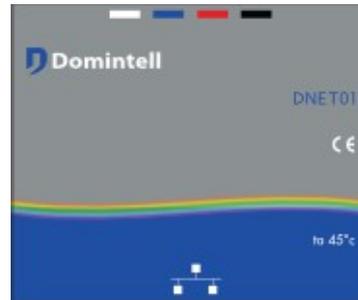# DNET01

DNET is an Ethernet module that allows the configuration (DETH03 emulation) and the control (DETH02 emulation) of a Domintell2 system.

Specifications

- Minimal version of GoldenGate software : 2.0.0.

- Minimal version of module's firmware : v3.

- Only one DNET01 module can be connected on Domintell2 bus.

- Module power supply : 12Vdc to 18Vdc.

- Module's consumption : 70mA (120mA peak).

- Dimension : L-53 mm (3 modules)

- Encrypted communication over WebSocket/TCP (TLSv1.2).

What's new regarding DETH03 function

- DETH03 emulation is always enabled.

- WebSockets are used to communicate (TCP protocol). Connections are encrypted (TLSv1.2) and password protected.

- If modem/router supports it, port forwarding can be configure automatically via UPnP.

What's new regarding DETH02 function

- Up to eight connections can be simultaneously opened using WebSockets (TCP protocol). Connections are encrypted (TLSv1.2) and password protected (external library is no more needed).

- One UDP connection is available for backward compatibility with existing applications. It must not be used for new applications. No password protected and no exclusive session.

- Third-party applications must be reviewed by their developper as LightProtocol and the way data are transferred on Ethernet have been improved to use new technologies that power the DNET01.

- If modem/router supports it, port forwarding can be configure automatically via UPnP.

List of services and ports

- 21/tcp : FTP server to update application and OS in DNET01. Also used to collect log files. *Do not forward this port in modem/router !*

- 17480/tcp : FTPoverHTTP service to update application and OS of all other Ethernet Domintell modules through a modem/router (Internet).

- 17481/tcp : DETH02 emulation over secured WebSocket. Allow control of the Domintell installation via a Smartphone using a NewGen application (Domintell Pilot, DomRemote, …).

- 17481/udp : DETH02 emulation over UDP (Legacy DETH02). Allow control of the Domintell installation via a Smartphone using an old generation application (iDomintell, DomintellRemote, iRIdium, …). This mode should not be used and must be disabled if possible.

- 17483/tcp : DETH03 emulation over secured WebSocket. Allow configuration of the Domintell installation using GoldenGate software (Replace USB conncetion on DGQG01).

- 17483/udp : Only to be able to DISCOVER DETH03 emulation. *Do not forward this port in the modem/router !*

- Multicast group 239.255.44.49:17490 : group to communicate with other Domintell modules. *Do not forward this port in the modem/router !*

Port forwarding

Some ports can be automatically forwarded using UPnP technology (NAT-PMP and PCP will not be handled). DNET01 is, therefore, able to automatically enable port forwarding in the modem for you.

Ports that can be forwarded : 17480/tcp, 17481/tcp, 17483/tcp.

Ports that must **never** be forwarded : 17490/udp, 17481/udp, 17483/udp.

Limitations

- Only one DNET01 can be connected to the bus at the same time.

- Module does not support PoE (Power-over-Ethernet).

- DNET01 is not compatible with Ethernet connection feature of Domintell2 software (due to lack of full UDP support for DETH03 emulation).

- DETH03 can not be connected to Domintell bus when a DNET01 is already connected.

- When UDP protocol is used for DETH02 emulation, the UDP connection is unprotected (no password) and unsecured (no SSL/TLS).

- DETH03 emulation is always enabled, for now.