PANTHER Controller

Product Data

by Honeywell

GENERAL

The PANTHER Controller has built-in communication capability, allowing it to be integrated into existent systems or into an open LONWORKS® network communicating with room / zone controllers or 3rd-party products. It can also serve as a stand-alone controller. Typical areas of application include heating systems, district heating systems, and air conditioning plants for restaurants, shops, offices, and small branch government buildings.

The PANTHER Controller supports standard LONMARK™ Network Variables according to LONMARK Interoperability Guidelines V.3.0. It can serve 22 (PANTHER MINIs: 13) integrated I/Os and supports peer-to-peer communication. Thus, in the case of larger-scale applications, several different controllers can be linked and accessed. The system firmware is stored in Flash EPROM, located in the application module (a separate module plugged into the controller housing) and allowing for easy upgrading of the operating system via download. The PANTHER Controller can be engineered with either COACH or CARE. COACH permits the engineering of applications with a max. of:

- approx. 128 LONMARK NVs when using the configurable applications HT02, AH03, or HE01;
- 46 LONMARK NVs when engineering the application with segments.

CARE permits the engineering of applications with a max. of:

- 46 LONMARK NVs.

FEATURES

- **Various state-of-the-art communication options:** Open LONWORKS® bus or C-bus communication.
- **Unique features in open LONWORKS® networks:** NV-Booster® reduces the number of required NVs and thus also the number of required controllers; NV bindings can be restored after controller reset (and thus need not be redone after exchanging controllers).
- **Reduced engineering and start-up costs:** Huge variety of pre-tested and fully documented applications, application engineered with either COACH or CARE.
- **Easy and flexible installation:** Screw terminals; mounting inside cabinet (DIN rail) or in cabinet front door.
- **Hardware / software options:** With or without the COACH operator and service software; MMI (for buswide access to other controllers).

DESCRIPTION

The PANTHER Controller is available in 15 versions, eleven with and four without a Man-Machine-Interface (MMI). The MMI versions allow buswide access to other controllers. The COACH operator and service software can be used in conjunction with all 17 versions. The housing can be mounted inside a cabinet on a DIN-rail or in a cabinet front door. All changeable parts or switches are accessible without opening the housing.

PANTHER Controllers

The eight PANTHER Controllers (CLPA21xxxx) have eight analog inputs, four analog outputs, four digital inputs (three of which can be used as totalizers), and six digital outputs. The digital outputs allow the direct drive of 3-position actuators (up to the max. load).

PANTHER MINI Controllers

The eight PANTHER MINI Controllers (CLPA13xxxx) have four analog inputs, two analog outputs, four digital inputs (three of which can be used as totalizers), and three digital outputs.

NOTE: In the case of the PANTHER MINI Controllers, the valve-actuator configuration option "floating-control actuator with two digital outputs" is not supported.

OVERVIEW OF MODELS

The following table provides an overview of available models.

Table 1. Overview of models

models (order no.) / features	CLPA21LC02	CLPA21LC12	CLPA21LM02	CLPA21LM12	CLPA21LC22	CLPA21LM22	CLPA21NN12	CLPA21NC12	CLPA13LC02 (Mini)	CLPA13LC12 (Mini)	CLPA13LM02 (Mini)	CLPA13LM12 (Mini)	CLPA13LM22 (Mini)	CLPA13NN12 (Mini)	CLPA13NC12 (Mini)
MMI	N	Y	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y
Cyrillic MMI	N	N	N	N	Y	Y	N	N	N	N	N	N	Y	N	N
mounting in front door of wiring cabinet	N	Y	N	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y
mounting on DIN rail	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
app. mod. XD50C-FCL (= LONWORKS +C-Bus)	Y	Y	N	N	Y	N	N	N	Y	Y	N	N	N	N	N
app. mod. XD50-FLS (= LONWORKS +M-Bus)	N	N	Y	Y	N	Y	N	N	N	N	Y	Y	Y	N	N
app. mod. XD50C-FC (= FLASH + C-Bus)	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y
app. mod. XD50C-F (= FLASH, only)	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	N
no. of analog outputs	4	4	4	4	4	4	4	4	2	2	2	2	2	2	2
no. of analog inputs	8	8	8	8	8	8	8	8	4	4	4	4	4	4	4
no. of digital outputs	6	6	6	6	6	6	6	6	3	3	3	3	3	3	3
no. of digital inputs	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

SPECIFICATIONS

Application Module

The PANTHER controllers are equipped with either an XD50C-FCL Application Module (type: C-Bus / LONWORKS BUS / Flash EPROM), an XD50-FLS (type: M-Bus / LONWORKS / Flash EPROM), an XD50C-FC (type: Flash / C-Bus), or an XD50C-F (type: Flash, only). All four application modules feature 64 kB of EPROM (boot), 256 kB of RAM, and 2 MB of Flash EPROM (for the firmware and application).

The firmware can be upgraded via the serial port using COACH Online. The application can be downloaded using COACH.

Mounting Options

- Front door mounted with sealing ring.
- Cabinet mounted on DIN-rail (rail clips included in delivery).

Wiring

The controllers can be wired with screw terminal blocks directly at the housing. Pre-wiring is possible, and a controller can be replaced without rewiring.

I/O Terminal Connection

Screw terminal blocks directly attached to housing.

Inputs/Outputs

All inputs and outputs are protected against overvoltage up to 24 Vac and 35 Vdc. All digital outputs are protected against short circuits via a changeable fuse (built-in fuse, 5 x 20 mm, 4 A quick-blow). See also following table.

Table 2. Input/output specifications

type	characteristics
8 (MINI: 4) AI's (universal)	Voltage: 0...10 V (software-controlled switches for high impedance) Current: 0...20 mA (via external 499 Ω resistor) Resolution: 10-bit Sensor: NTC 20kΩ, -50...150 °C
4 DI's	Voltage: max. 24 Vdc (≤ 2.5 V = logical status of 0; ≥ 5 V = logical status of 1), 0...0.4 Hz (0...15 Hz for 3 of 4 inputs when used as totalizer, 4th input only for static parameter requirements)
4 (MINI: 2) AO's (universal)	Voltage: 0...10 V, max. 11 V, ±1 mA Resolution: 8-bit Relay: via MCE3 or MCD3
6 (MINI: 3) DO's	Voltage: 24 Vac per triac Current: max. 0.8 A, 2.4 A for all triacs together

MMI

Those versions featuring a built-in Man-Machine Interface include a keypad (with eight function keys and four fast-access keys) and a display (with LCD, four lines, 16 characters per line, adjustable contrast, backlight).

Bus and Port Connections

C-Bus Connection

Optional; located on application module. Up to 76.8 Kbaud, switch provided for selectable termination.

LONWORKS® Bus Connection

Optional; located on application module. 78 Kbaud, FTT-10A Free Topology Transceiver, using LonTalk® protocol.

Controller Serial Port Connection

9-pin Sub-D connector, RS 232, 9.6 Kbaud connection of COACH.

I/O Screw Terminal Block Connectors

Block A: 26-pin port, DO's and power.

Block B: 34-pin port, AI's, DI's, and AO's.

Power Supply

Voltage

24 Vac, ±20 %, 50/60 Hz from external transformer.

Current

3 A (2 A if digital output current ≤ 1.5 A). In case of power failure, the super gold capacitor saves RAM content and real-time clock for 72 hours (thus, no problems disposing of dead batteries).

Power Consumption

Max. 10 VA without load at digital outputs.

Environmental Ratings

Operating temperature:	0...50 °C
Storage temperature:	-20...+70 °C
Relative humidity:	5...93% non-condensing
Purpose:	for home (residential, commercial, and light-industrial) environments
Construction:	for incorporate mounting in cabinets
RFI, EMI	according to CE regulations
Pollution degree:	Class II
Action:	Type 1
Software:	Class A
Impulse voltage:	500 V

Protection Standards

IP54 (when front-door mounted with MMI in a cabinet conforming to IP54 and use of ACC3 mounting clamps and sealing ring).

IP20 (when wall-mounted: both with and without MMI).

Certifications

- CE
- Meets FCC Part 15, Subpart J for Class A equipment.

Application Modules

Housing

Plug-in plastic modules, fixed with screws.

Application Module LEDs and Ports

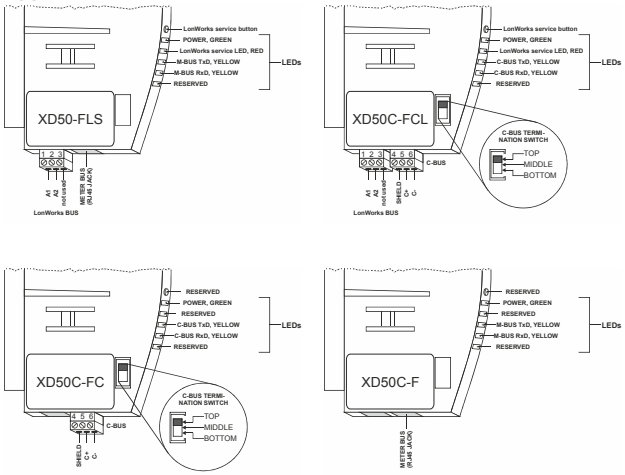

Fig. 1. Application modules

Terminal Blocks

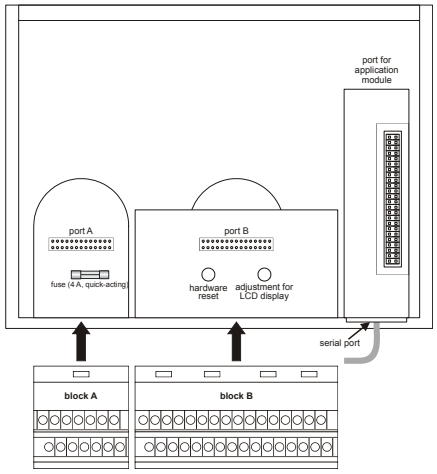

Fig. 2. PANTHER Controller housing (rear view)

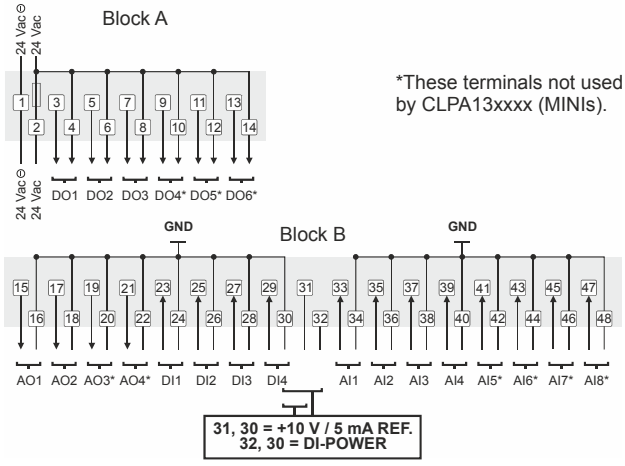

Fig. 3. Terminal assignment of screw terminal blocks

Dimensions

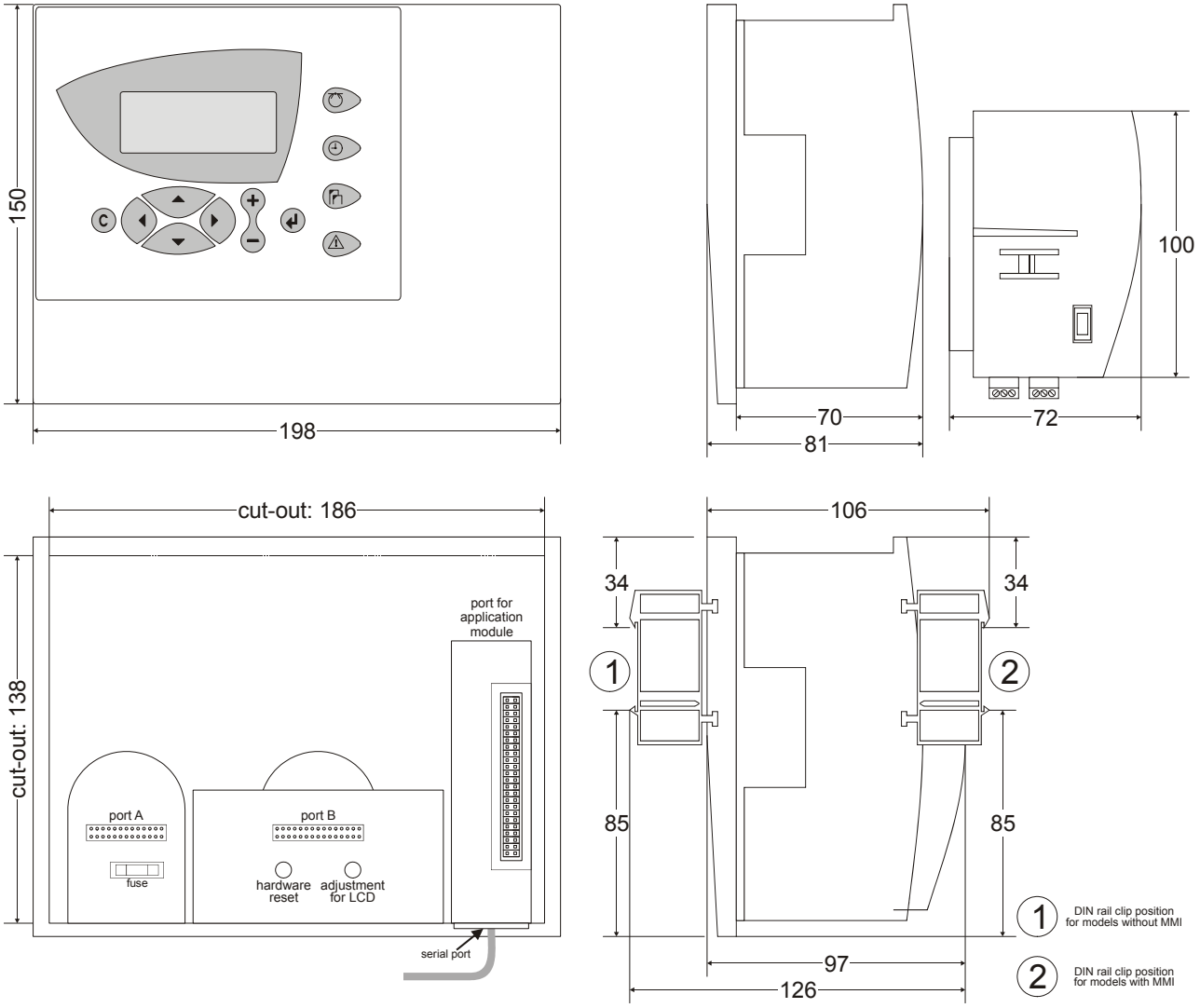

Fig. 4. Dimensions

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