haasCONNECT Digital Controller

BEFORE YOU BEGIN

Read these instructions completely and carefully.

WARNING

RISK OF ELECTRIC SHOCK

- Turn power off before inspection, installation or removal

RISK OF FIRE

- Follow all relevant IEC instructions and local building codes
- Use only IEC approved wire for input/output connections.

SEPARATION OF CIRCUITS

- Install in accordance with National Electric Code and local codes rules

In case of miswiring the digital bus, mains can be present on the device. Make sure electricity is switched off before inspection.

The grounding and bonding of the overall system shall be done in accordance to local electric code of the country where the controller is installed.

IMPORTANT

- To ensure the product warranty is valid, please ensure all installation instructions and environmental conditions for storage and operation are complied with.
- Only Haas & Schmidt Lighting trained contractors are allowed to install the product.
- Must be installed in a Cabinet.

BG Българската версия на инструкциите за инсталация и информация за безопасност могат да бъдат намерени на следния адрес:
HR Hrvatska verzija priručnika za ugradnju i sigurnosnih informacija nalazi se na sljedećoj lokaciji:
CS Návod k montáži a bezpečnostní informace v češtině najdete zde:
DA Den danske version af installationsvejledningen og sikkerhedsoplysninger kan findes på følgende placering:
NL De Nederlandse versie van de installatie-instructies en veiligheidsinformatie kan op de volgende locatie worden gevonden:
ET Eestikeelse paigaldusjuhendi ja ohutusnõuded leiate aadressilt:
EN The English version of the installation instruction and safety information can be found at the following location:
FI Asennusohjeiden ja turvallisuustietojen suomenkielinen versio löytyy seuraavasta paikasta:
FR La version française des instructions d'installation et informations de sécurité est disponible à l'adresse suivante :
DE Die deutsche Version der Installationsanleitung und Sicherheitsinformationen finden Sie in folgendem Verzeichnis:
EL Μπορείτε να βρείτε την ελληνική εκδοχή των οδηγιών εγκατάστασης και των πληροφοριών ασφάλειας στην εξής τοποθεσία:
HU A telepítési útmutató és a biztonsági információk magyar nyelvű változata az alábbi címen található:
IT La versione italiana del manuale di installazione e sicurezza può essere reperita nella seguente sezione:
LV Uzstādīšanas instrukciju un drošības informāciju latviešu valodā var atrast šeit:
LT Lietuvišką diegimo instrukcijos ir saugos informacijos versiją galima rasti šioje vietoje:
PL Polską wersję instrukcji instalacji oraz informacje dotyczące bezpieczeństwa można znaleźć w następującej lokalizacji:
PT A versão em Português das instruções de instalação e das informações de segurança pode ser encontrada na seguinte localização:
RO Versiunea în limba română a instrucțiunilor de instalare şi a informațiilor de siguranță pot fi găsite la:
SK Slovenskú verziu montážnej príručky a bezpečnostných inštrukcií nájdete na nasledujúcej lokalite:
SL Slovenska različica navodil za namestitev in varnostnih navodil se nahaja na naslednji strani:
ES La versión española de las instrucciones de instalación y la información sobre seguridad puede encontrarse en la siguiente ubicación:
SV Ni hittar den svenska versionen av installationsanvisningarna och säkerhetsinformationen på följande plats:

www.haasleuchten.com/installations

Technical data

Specification

Type	haasConnect Digital Controller
Product code	HL-HC-DC-03
SKU	93037756
Dimensions	W x L x H: 213 x 90 x 58 mm
Weight	400 grams
Housing	DIN (EN50022) rail mounted, M12
Warranty	5 years

Powering device

Power input	110 - 240 V AC 50/60Hz *
Fuse protection - internal	1A load, T/SLO-BLO, VDE/UL rated
Electrical safety class	EU Safety Class II if installed in an appropriate mounting box
Terminals	Screw terminals Wire size: 0.05-3 mm^2 (solid or stranded wire with sleeve)
Terminal assignment	See wiring diagrams and information printed on unit. If incorrectly connected there is a risk of failure, malfunction or destruction.

Operating conditions

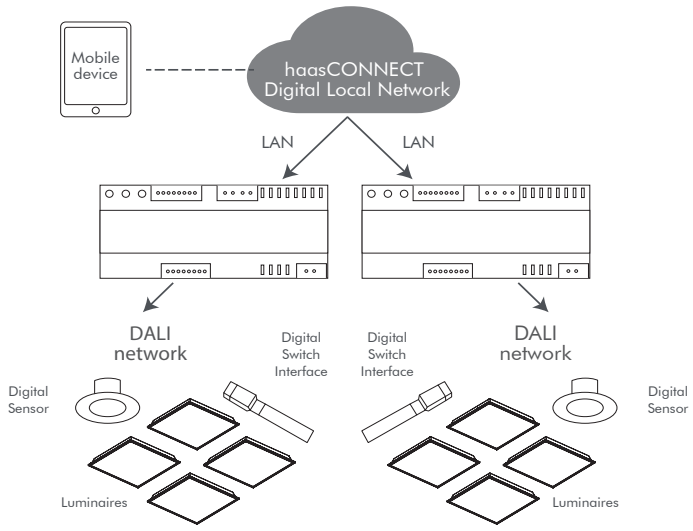
Operating temperature	0°C – 45°C
Rel. humidity	90%, non-condensing
IP rating	20

Interfaces

Digital interface	Two independent single-cable digital communication and power supply interface. The power supply is feeding 18,5V/175mA DC, +/-10%, it has electrical current limitation and protection against overheating and overvoltage. DALI 1.0 and DALI 2.0 devices can be connected, please contact your local support for compatible device's list.
Relay outputs	4 outputs as Solid state dry contacts, 24-240V AC or DC nominal load, 400V/50mA peak, galvanically separated contacts (VISO= max. 4.5 kV between contacts)
Input interface	4-channel Max. 25VDC
Data interface	1 Ethernet connector: RJ45, 10Mbit/s full duplex
Data cable routes	CAT5 and higher grade, max. 100 meter cable length
Controller Network	Up to 10 haasCONNECT Digital Controllers can form a network

Product Certifications

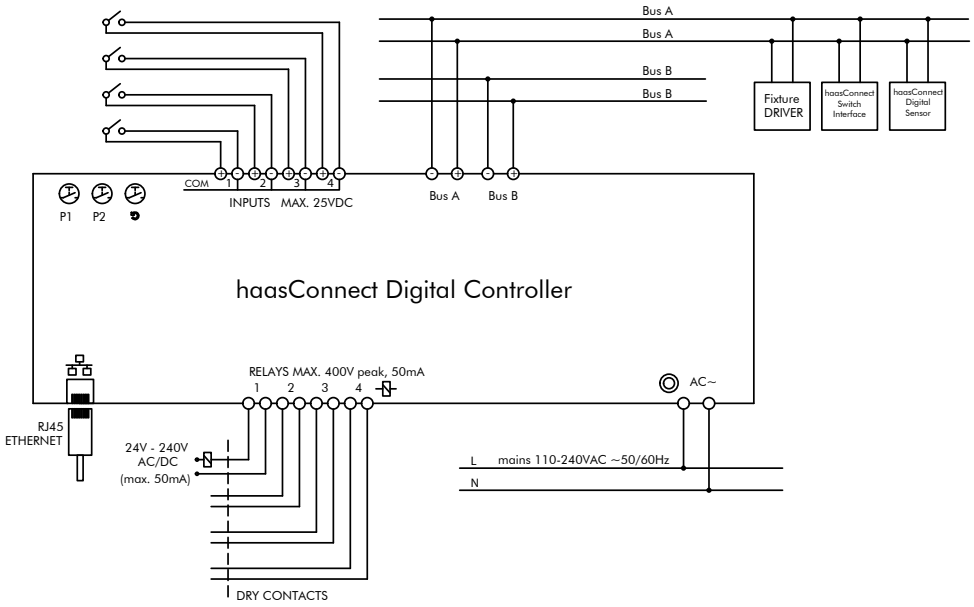
System components



haasCONNECT Digital system components:

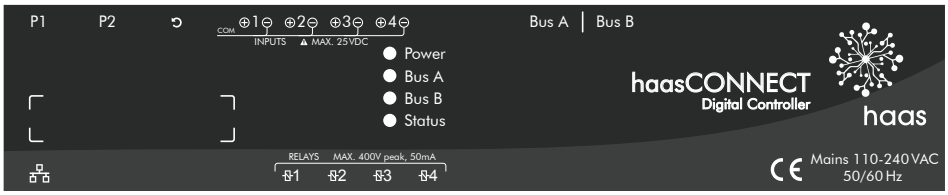
haasCONNECT Digital Controller	SKU: 603010201
haasCONNECT Digital Switch Interface	SKU: 603020201
haasCONNECT Digital Sensor Recessed	SKU: 603030201
haasCONNECT Digital Sensor Surface Mounted	SKU: 603031201

Wiring diagram



Marking

Check marking on the front label of device:



Marking	Definition
Mains 110-240 VAC / 50/60 Hz	Power input
P1	Push button 1 (Corresponding to Bus A)
P2	Push button 2 (Corresponding to Bus B)
↻	Push button - Reset Device
COM ⊕1⊖ ⊕2⊖ ⊕3⊖ ⊕4⊖ INPUTS ⚠MAX. 25 VDC	Input terminals 1-4 Dry contacts
RELAYS MAX. 400V peak, 50mA 1 2 3 4	Output terminals 1.-4. Solid state relays for external relays (External relays max. 400V peak, 50mA)
Bus A	Terminal for Digital bus 'A'
Bus B	Terminal for Digital bus 'B'
品	Ethernet connector
○ Power ○ Bus A ○ Bus B ○ Status	Indicator LED for feedback in operation See explanation below.
⌜ ⌝ ⌞ ⌟	Place for MAC address/ individual ID of device

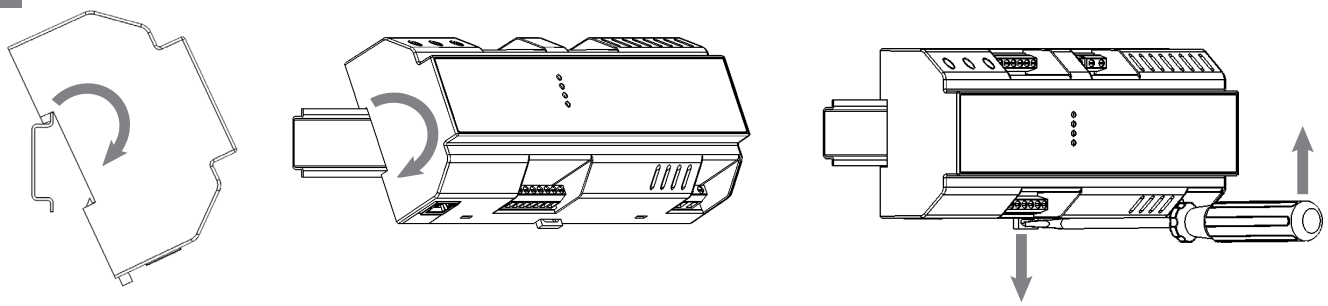
Notes

Purpose of the Control	Operating Control
Method of Mounting Control	Independently Mounted Control for panel mounting
Rated Impulse Voltage	2500

Installation

Important!
Must be installed in a Cabinet.

1



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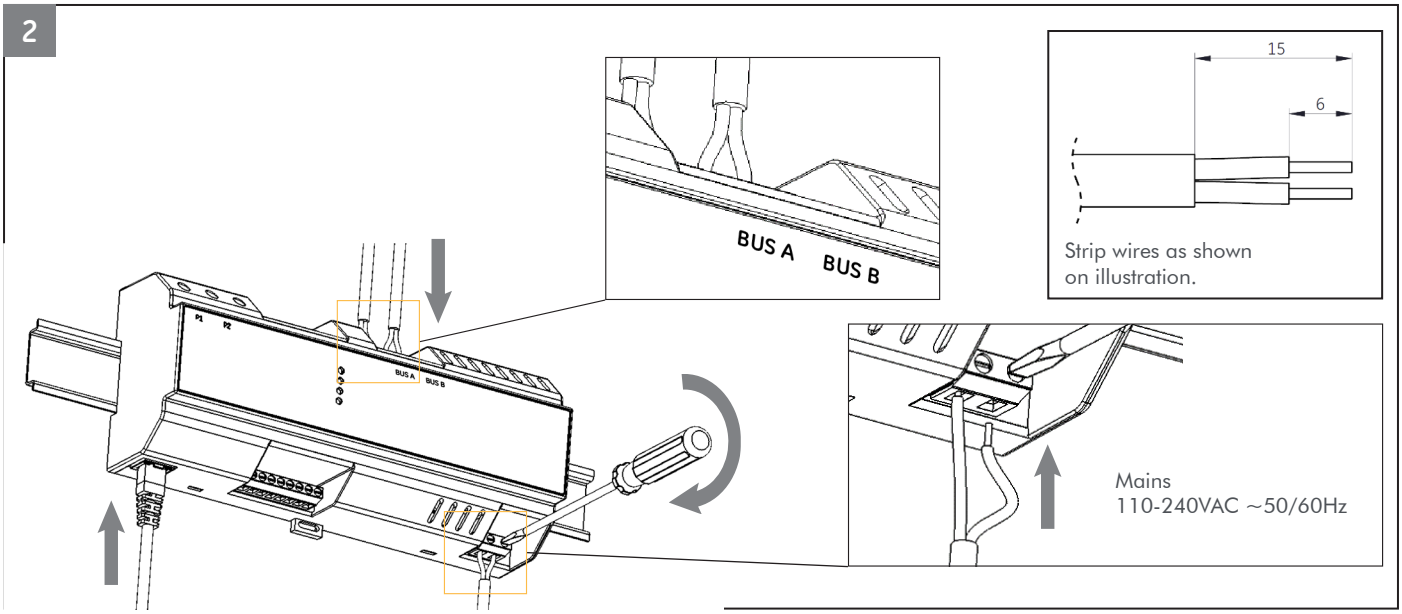

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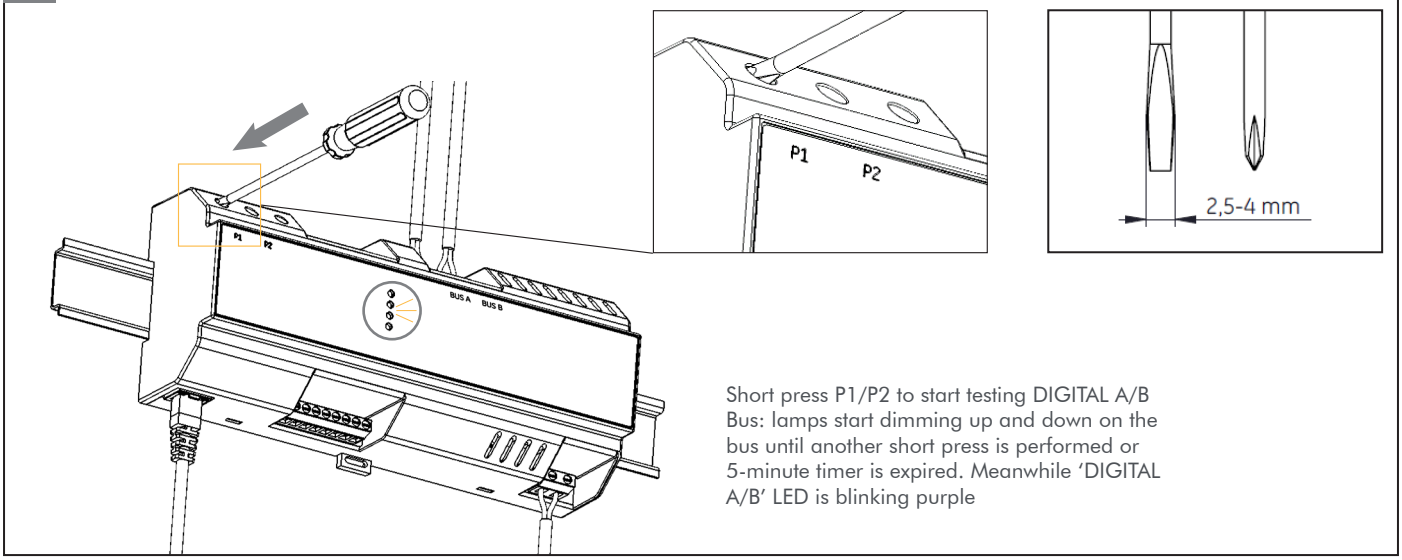

Connecting Digital devices

Cable length limitations, Digital bus (control interfaces in accordance with 15.5 of IEC 61347-2-3:2011):

Conductor x-section, mm², copper	.75	1	1.5	2	3*
Cable length, m	95	120	190	240	375*

*overall cable length above 300m shall be avoided

DC resistance must not exceed 4Ω; according to IEC62386-101:2014.
Both Electrical and Logical limitations of Digital bus shall be considered when sizing / designing of the lighting control system.

Electrical limitations of each Digital bus
Max current load on each bus = 175mA
When connecting devices calculate power consumption of the devices on the bus

- Control Gear: 2mA**
- haasConnect Digital Switch Interface: 2mA
- haasConnect Digital Sensor 2: 3mA

Logical limitations of each Digital bus

- Max number of DALI control gears applicable per bus: 64 pcs
- Max number of Digital input devices applicable per bus: 64 pcs

Input devices are haasCONNECT Digital Switch Interfaces and haasCONNECT Digital Sensors. In terms of connecting 3rd party Digital devices please contact support.

**Please check the current on the driver being used

Wiring Relay outputs

Maximum cable length of relay outputs: DC resistance must not exceed 10Ω (see table below)
Cable length limitations, relay drive outputs:

Conductor x-section, mm², copper	.05	.125	.25	1	2	3
Cable length, m	12	30	75	300	600	900

Wiring Input interfaces on controller

Warning: negative terminals are common internally. Loops should be avoided
Maximum cable length for inputs: wiring DC resistance must not exceed 100Ω
Cable length limitations, analog control inputs (negative terminals are common internally):

Conductor x-section, mm², copper	.05	.125	.25**	1**	2**	3**
Cable length, m	150	375	750	3000	6000	9000

**care should be taken applying cable lengths above 500m as it can harmfully influence stability.

Separation of circuits

Warning: the wiring shall be installed in accordance with local installation codes rules; the power wiring must be separated accordingly from the class 2 signal wiring
Power wiring - AC power input and the relay outputs
Signal wiring - Ethernet, input interfaces and Digital Bus A/B

Network connectivity

haasCONNECT system requires wired network for operation and wireless (Wi-Fi) network for commissioning and setup (In case of standalone deployment, this can be a temporary network).

haasCONNECT devices should be placed into an independent broadcast domain in the network, separated from any other devices and communications. These Controllers can obtain their IP addresses with DHCP, therefore an active IPv4 DHCP service should be available in this network segment. Static IP addresses are not supported.

The hand held device with the commissioning application should be connected to the same network segment. The proper Wi-Fi coverage in the whole commissioning area is an essential need.

Device status indicators

LED signals

Power LED:

- BLUE = device is powered and in operation

Bus A/Bus B:

- BLUE = Bus status is ok
- Blinking BLUE = communication on the Bus
- RED = Bus error (short)
- Blinking RED = More device than allowed on the Bus
- Blinking PURPLE = Bus test in progress
- Continuous PURPLE = PB1/2 push is active

Status:

- Continuously blinking BLUE = status OK
- Blinking blue quickly = Controller is booting or busy
- Blinking purple slowly = Controller is searching for endpoints
- Continuous BLUE or OFF = Controller is frozen, perform a reset
- Blinking red quickly = TLS handshake / Authentication

Test & reset installation

Use a tool not thicker than 4mm to press pushbuttons in the hole. By pushing button PB1/2, Bus A/B indicator LED gets continuous PURPLE.

TEST of connected devices

- PB1 (pushbutton 1) short press: start testing Bus A bus: lamps start dimming up and down on the bus until another short press is performed or 5-minute timer is expired. Meanwhile 'Bus A' LED is blinking purple.
- PB2 (pushbutton 2) short press: start testing Bus B bus: lamps start dimming up and down on the bus until another short press is performed or 5-minute timer is expired. Meanwhile 'Bus B' LED is blinking purple.

RESET functionalities

- ↻ (reset button) short press: restart controller (HW reset, no software configuration impact)
- PB1 long press (min 10 seconds): reset all Digital devices, control gears + other devices to reset value on Bus A
- PB2 long press (min 10 seconds): reset all Digital devices, control gears + other devices to reset value on Bus B
- PB1 + PB2 Long press (min 10 seconds) = reset controller to factory defaults: empty flash configuration database, reset passwords and run self-test. All indicator LEDs blink 4 times when device reset.

Real time clock

In case of power outage the controller can keep the set internal clock. Retention time: 1 week.

Failure modes and quick repair

#	Statement	Take action
1	Controller do not react on buttons and status LED is continuous BLUE or OFF.	Push reset button or power off and on device
2	If Bus A/B indicator LED is continuously RED, then Bus error.	Check Digital bus wiring voltage drop, wiring short circuit or endpoint limitation
3	If Bus A/B indicator LED is Blinking RED, then controller have more Digital device on the bus than allowed	Check Digital device limitation
4	If two lamps work together than the same short address was set.	Reprogram driver or reset Bus A or B by long-press on PB 1 or 2
5	If the power indicator LEDs flashing up blue for a few second and then all indicator LEDs are dark.	The controller cannot be repaired locally. Contact GE support.
6	If all indicator LEDs are dark.	Check supply voltage. Contact Haas & Schmidt Lighting

Maintenance instructions

Yearly maintenance

- Open controller cabinet and clean controller from dust
- Check wiring connection strength at terminal blocks
- Check indicator led on the front plate for any failure signal
- Connect the haasCONNECT PRO commissioning application to the system at least once a year

Legal disclaimer

For Legal disclaimer please visit our website.

Contact information:

Webpage: www.haasleuchten.com
For further information contact your local sales.