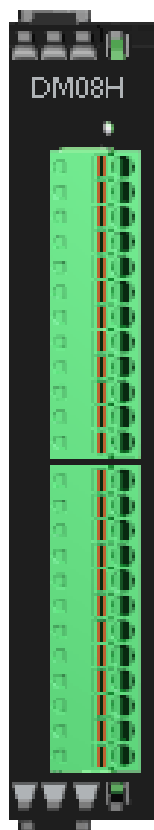


DM08H

Module with 4 High voltage digital input
and 4 Solid-state relay outputs

Data Sheet

Doc: 40447 v1.01





INTRODUCTION

Before using the LB2 Modules, read the LB2 User manual.

The Brodersen LB2 modules can be used with RTU32N & RTU32M series. The I/O modules are in two parts, bottom part containing the backplane bus, and top part containing the I/O board and logic. All LB2 I/O modules are hot plug. LB2 I/O modules are all equipped with 200 MHz processor to process I/O's and handle filtering, de-bouncing, module clock, general module logics, and etc.

Module firmware update is handled from RTU level in Brodersen Worksuite. Use only genuine Brodersen bus cables for connection to Brodersen RTUs and extension of I/O module blocks. The connection cables for LB2 are special made to handle the power requirements and shielding to run communication. The maximum overall length of complete system is 20m. Each I/O module & Power supply module is calculated as 2cm. The cables are as the length indicates, e.g., UCC-610/100 count as 100 cm.

Maximum possible system configuration is 60 I/O modules on one LB2 Bus.

Cable ordering codes:

- UCC-610/25 25cm LB2 Cable
- UCC-610/50 50cm LB2 Cable
- UCC-610/100 100cm LB2 Cable
- UCC-610/200 200cm LB2 Cable

POWER SUPPLY MODULE BACKPLANE PART

Description	Part Nr.
BUS module for IOs, Start	BB21A
BUS module for IOs, Middle	BB21B
BUS module for IOs, Extension	BB21C

VERSIONS / ORDERING CODES

Hardware basic version

Order code: DM08H

I/O INTERFACE

Connectors digital input:

2x 12 way 3.5mm pluggable spring clamp connector
Conductor Area CSA: 1.3mm²

TERMINALS LAYOUT

Connector top section A:

- Pin 1: + DIH 0
- Pin 2: - DIH 0
- Pin 3: + DIH 1
- Pin 4: - DIH 1
- Pin 5: + DIH 2
- Pin 6: - DIH 2
- Pin 7: + DIH 3
- Pin 8: - DIH 3

Connector bottom section B:

- Pin 1...2: Digital output 0 contact, NO
- Pin 3...4: Digital output 1 contact, NO
- Pin 5...6: Digital output 2 contact, NO
- Pin 7...8: Digital output 3 contact, NO

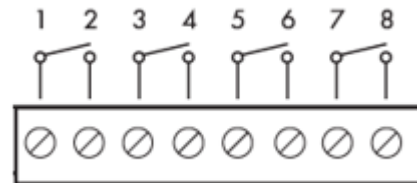


Figure 1 Electrical diagram relay outputs

ELECTRICAL

Power consumption (from backplane bus):

- Current consumption (min*): 25mA @ 12V
- Current consumption (max**): 65mA @ 12V
- Power consumption (min): 300mW
- Power consumption (max): 780mW

* All outputs are de-activated. About 10mA per each activated output will be added to this value.

** All outputs are activated.



DIGITAL INPUT

Digital input voltage:

Input 0...3

Activated 180-280 VDC
Deactivated Max 50 VDC

Digital input current:

Input 0...3

typical 1.6 mA @ 180 VDC
typical 2.5 mA @ 280 VDC

Input delay:

100 µs typical

Isolation:

2KV input to electronics, 1 minute.

300 VAC input to input 1 minute.

RELAY OUTPUT

4 solid-state non-latching relay outputs (0-300VDC)
output: potential free contact SPST (NO).

Load voltage:

Max 300 VDC

Load current:

0.2A @ 300VDC (resistive load)

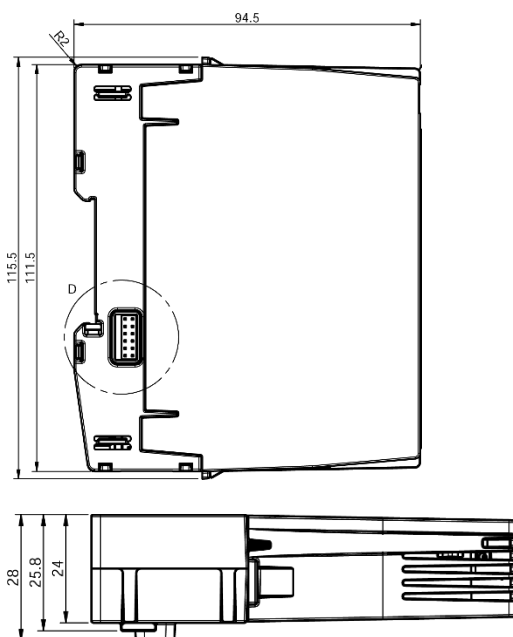
Output delay:

Typical 5ms

Isolation:

2KV output to electronics, 1 minute.

MECHANICAL



Mounting	DIN 35
Width	24 mm
Height	111.5 mm
Depth	94.5 mm
Weight	102 grams

ENVIRONMENTAL CONDITIONS

Ambient operating temperature range	-25°C to +75°C
Ambient operating temperature range	-40°C to +85°C
Marked degree of protection	IP20
Humidity	0...99.8%
Ventilation Restrictions	No
Pollution degree	2

STANDARDS

EMC:

- **IEC 61000-6-2:** EMC - Immunity standard for industrial environments
- **IEC 61000-6-4:** EMC - Emission standard for industrial environments
- **IEC 50121-4:** Railway applications - EMC - Emission and immunity of the signalling and telecommunications apparatus

Safety:

- **IEC 60950-1:** Safety requirements for Information technology equipment
- **IEC 61010-1:** Safety requirements for electrical equipment for measurement, control, and laboratory use

Environmental:

- **IEC 60068-2-1:** Environmental testing - Cold
- **IEC 60068-2-2:** Environmental testing - Dry heat
- **IEC 60068-2-30:** Environmental testing - Damp heat, cyclic (12 h + 12 h cycle)
- **IEC 60068-2-78:** Environmental testing - Damp heat, steady state
- **IEC 60068-2-6:** Environmental testing - Vibration (sinusoidal)
- **IEC 60068-2-27:** Environmental testing – Shock



MODULE LED STATUS

A dual color (red/yellow) LED is provided on the module which indicates the module status. Yellow LED indicates module mode / state and red indicates module error or warnings (according to the table below):

Status	Yellow	Red
Normal operating	ON	OFF
Communication timeout	Blinking	OFF
Module is not configured / wrong configuration	Single flashing	OFF
Module is configured but is in stopped mode (ready for being started)	Double flashing	OFF
Module is in firmware update mode	Quadruple flashing	OFF
Communication error	NA	Blinking
Communication warning	NA	Single flashing
Corrupted module info in EEPROM	NA	Flickering
Hardware fatal error	OFF	ON
No module power	OFF	OFF

Each pattern / color will operate in 2 sec duty cycles. When red LED is inactive (off), only the 2 sec yellow duty cycles will operate (yellow is always active). When red LED is active, a switch between 2 sec yellow, and 2 sec red patterns will occur.