



SERVING
SAFETY

High Density Relay Module (HDRM)

Fast, flexible, compact and reliable

Short project lead time and last minute design changes call for flexible electrical circuit solutions. Space- and weight issues call for compact, light weight solutions. Maximizing rolling stock operational up time call for large line replaceable units.

The answer is High Density Relay Module (HDRM) by Mors Smitt.

Features

- Extremely compact, space saving
- Up to 168 C/O contacts, 1 mA - 10 A @110 VDC
- Fast, flexible & versatile
- Line replaceable unit, efficient maintenance through integrated connectors
- Tried and tested, railway proof
- Flexible commissioning (through easy wiring)



High Density Relay Module (HDRM)

Free configurable up to 168 C/O contacts, 10 A, 110 VDC

The HDRM solution; fast, flexible, compact and reliable.

Based on the D-U relay Mors Smitt now introduces the HDRM. A modular switching solution with up to a staggering 42 D-U relays, freely configurable, with all 168 C/O contacts. Easy marshalling / cross wiring, inside the box enables last minute changes to the circuitry. Connections are wired, not on PCB, enabling 10 A continuous current on ALL circuits and 200 A (@10 ms).

No waiting for PCB manufacturers, no special testing, just change and apply. The relays are plugged in a special socket, making it fast and easy to exchange, even to change into a timer or latching relay.

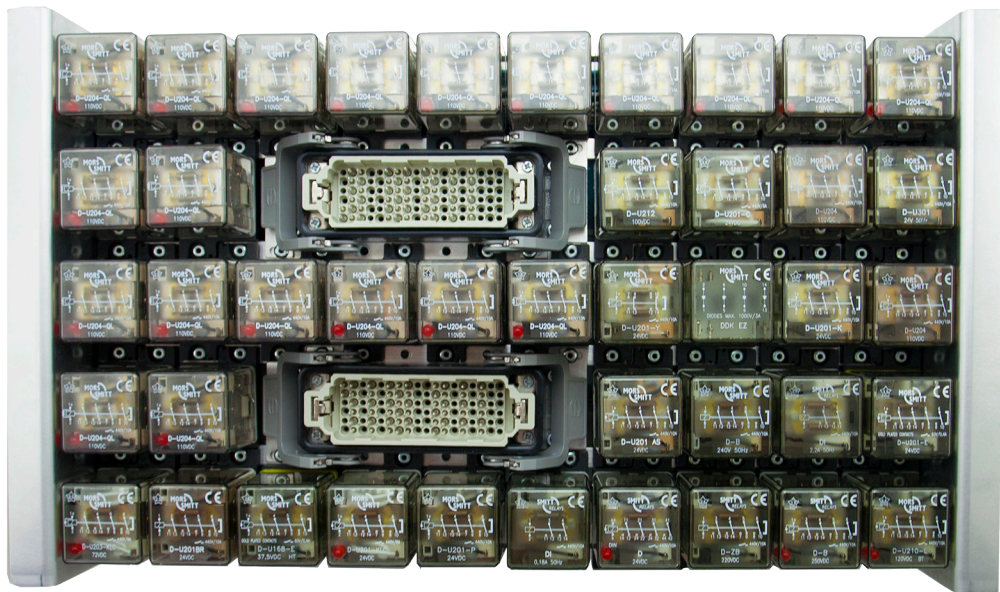
Each contact has 2 spring clamp connections for fast, secure and flexible wire connection, ready for marshalling / cross-wiring.

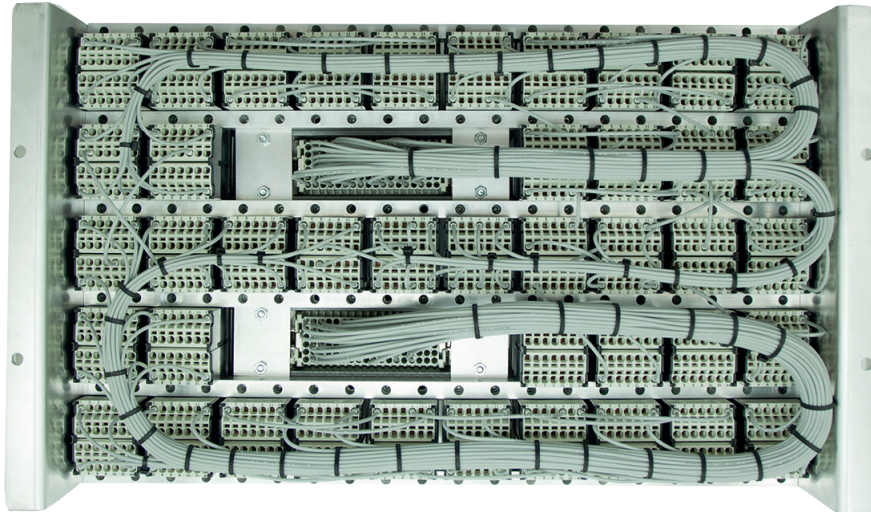
After design freeze, the wiring and installation are tested and certified by our fully automatic testing computer, guaranteeing supply of a 100% correct set and line replaceable unit.

After manufacturing all units are 100 % functional tested using our sophisticated testcomputer:

- Point-to-point wired connections
- 1000 VDC insulation test on all connections and wiring
- 100% fully functional test according schematics

All contacts are backside connected. The train wiring is connected through connectors with a keying code, ensuring easy and correct installation and replacement. Each relay is pluggable, making cost efficient replacement easy.





Backside, showing wired spring clamp connections

Customer specific

The concept is versatile, HDRM houses 42 relays. In cases where less relays are required, or less space is available, other configurations are possible.

In every case, the benefits remain: flexible, fast and, through our certified testing methods: extremely reliable.

The relay

Currently there are 10 million D-U rolling stock relays in service worldwide. This tried and tested electro mechanical work horse has proven its worth in all climates and all applications from 1 mA to 10 Amp.

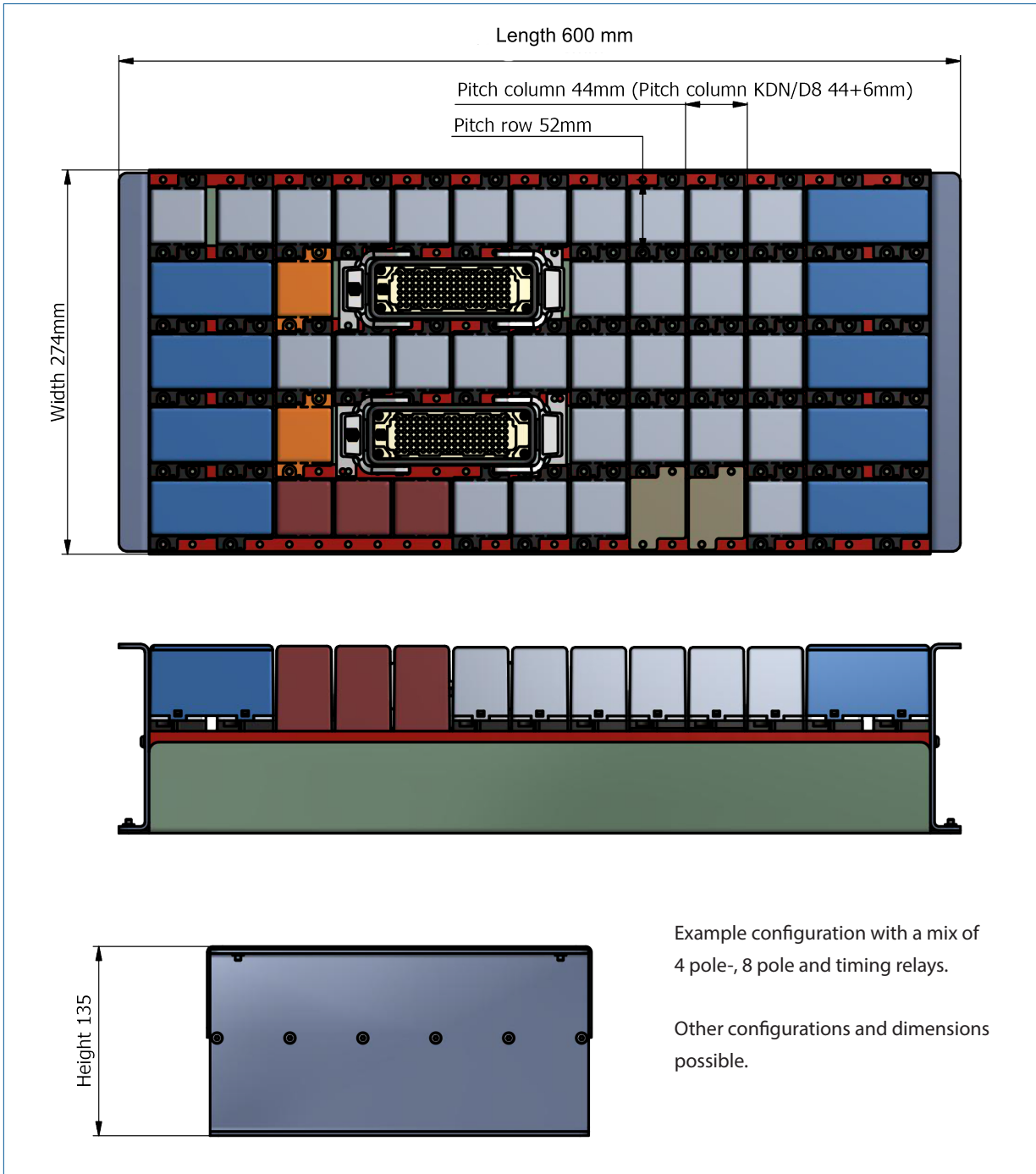
The 4-pole D-U200 relay has a rated current from 1 mA to 10 A and, because of magnetic arc blow-out it has the ability to break a massive 8 A @ 110 VDC.

Coil voltages range from 12 – 250 VDC. All from the regulatory 70% - 125% Unom at 70°C Tamb. The D-U relays are IP50 and optional IP60.

With timers and latching relays on the same plug-in concept, it is the versatility of this relay concept that makes it the GoTo, safety- and general purpose relay for many rolling stock engineers around the globe.

Applicable standards

EN 50155	Electronic equipment used on rolling stock
EN 50264-1	Rolling stock power & control cables
IEC 60571	Electronic equipment used on railway vehicles
IEC 60077	Electrical equipment for rolling stock
IEC 60947	Low voltage switchgear and control gear
IEC 61373	Rolling stock equipment - Shock & Vibration
EN 50121	Electromagnetic compatibility for railway applications
NF F16-101/102/	Fire behaviour - railway rolling stock
EN 45545-2	
IEC 60529	Protection class (IP class)
IEC 60068-2	Salt/mist, damp/heat



Mors Smitt is a railway supplier for onboard and trackside safety-critical solutions. Its solutions combine electro-mechanical ultra-high dependability relays with safety-critical electronics, all of which is manufactured to the strictest standards (IRIS, ISO 9001, ISO 14001).

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