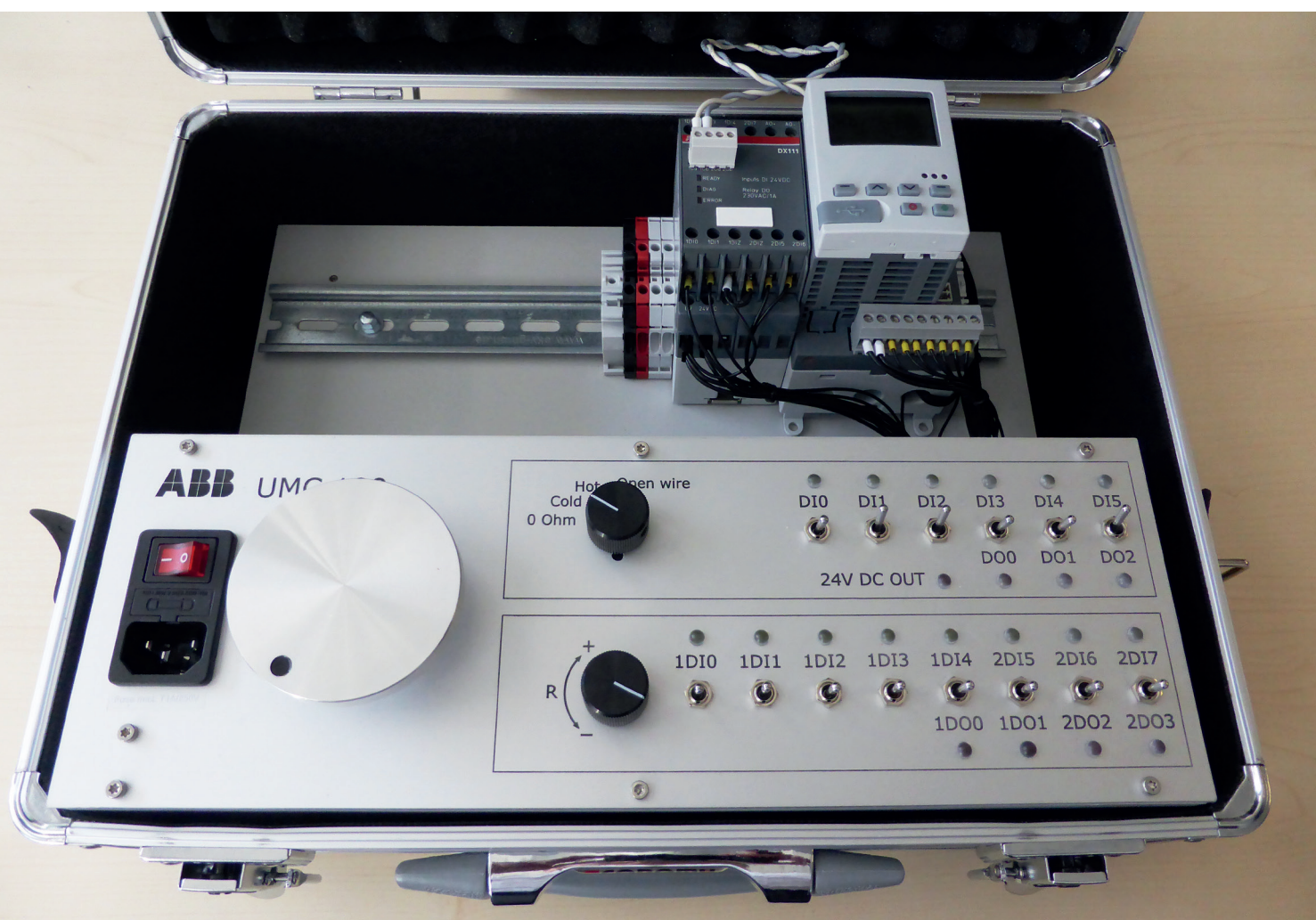


TECHNICAL DESCRIPTION

TBU22

Demo case for UMC100.3



- Ready made demo kit
- Demonstrate and test a wide range of UMC100.3 functions
- Supplied with 110 V AC or 230 V AC

The Universal Motor Controller UMC100.3 delivers all the reliability and protection you expect while driving an intelligent data hub for predictive applications, maintenance and asset management. Outstanding user experience for smooth running of your operations, paired with unrivalled communication options, simple configuration and market leading software.

The UMC100.3 Motor Controller – future ready, and ready to take motor control to the next level.

Important notice

Target group

This handbook is intended for use by trained specialists in electrical installation and control and automation engineering, who are familiar with the applicable national standards.

Symbols used in this handbook

This technical document contains markers to point the reader to important information, potential risks and precautionary information. The following symbols are used:



Symbol indicates a potentially dangerous situation that can cause damage to the UMC100.3, connected devices, or to the environment.



Symbol indicates important information and conditions.



Symbol indicates a potentially dangerous situation that can cause personal injury.

Safety instructions

The responsible staff must ensure that the application or use of products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

Also ensure the following points:



The metal box containing the power supply and motor must not be opened.



The demo unit can be used inside or outside the case. The intended operation position is the horizontal position. Always keep the vent holes free on both sides.



The UMC100.3 demo case is designed for use in industrial environments. If the demo case is used outside industrial environments (e. g. in an office building) it might cause disturbances of other electronic devices. For indoor use only.

Maintenance Instructions



Only use the mains cable provided.



In case of a blown fuse an internal error or even an isolation fault must be assumed. Disconnect the demo case immediately from the mains supply and send it back to the manufacturer for inspection.



A periodic safety check, e.g. according to BGV-A3, is the responsibility of the customer.

Instructions

Overview

The UMC100.3 demo case TBU22-FBP is a ready made demo kit for demonstration and testing of a wide range of UMC100.3 functions. The demo case can be supplied with 110 V AC or 230 V AC.



It is assumed that the user of the TBU22 is familiar with the functions of the UMC100.3 and how to set parameters.

It can be used to demonstrate the following UMC100.3 features:

- Base device
 - Trip and other faults e. g. overload trip
 - Local control via LCD control panel and via digital inputs
 - Fault input, fault output
 - Blocking, low / high current signalling
 - PTC simulation
 - Control functions DOL and REV (others are not possible due to the internal wiring)
 - Configuration, online monitoring and control via service tool (tool not included)
- DX111 expansion module
 - Using the DIs
 - Using the DOs
 - Using the AO
- AI111 expansion module (not included)
 - Using temperature inputs
- UMC100.3-PAN
 - Monitor the UMC100.3, the motor, and the IOs
 - Parameterise the UMC100.3
 - Start/Stop the motor
 - Demonstrate ease of commissioning (e.g. changed parameter menu)
- Developing and testing own customer specific applications
 - Changing provided templates
 - Online monitoring of an application

Operation

The demo case is completely wired.

To use the demo case, we recommend setting the following UMC100.3 parameters as follows:

Control Function:	Reversing Starter
DX1xx module:	Enabled
Checkback Time:	3 s
Checkback	by current
Phase related parameters:	Disable all phase related protection functions because only a single phase motor is used.
Nominal current:	~0.3 A for a 230 V AC supply voltage. 0.25 A for a 110 V AC supply voltage. This results in a motor current of about 110%.
PTC:	Trip

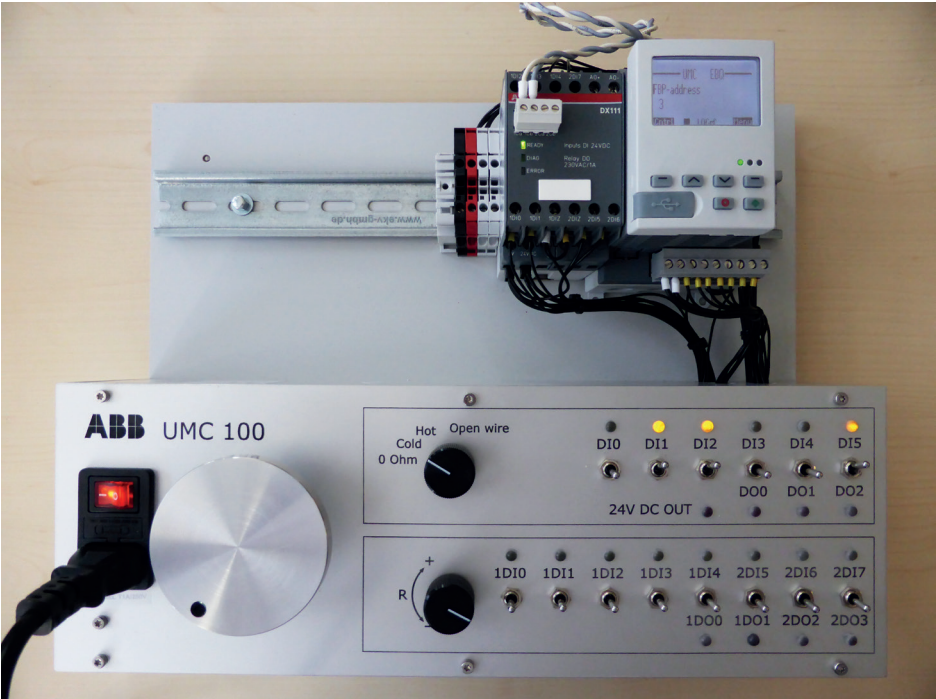


The demo case uses a small single phase motor which is supplied with a partially rectified power supply. The nominal current settings and the CT cable feed through were just done in a way that the displayed motor current is about 110%.

Photos



01

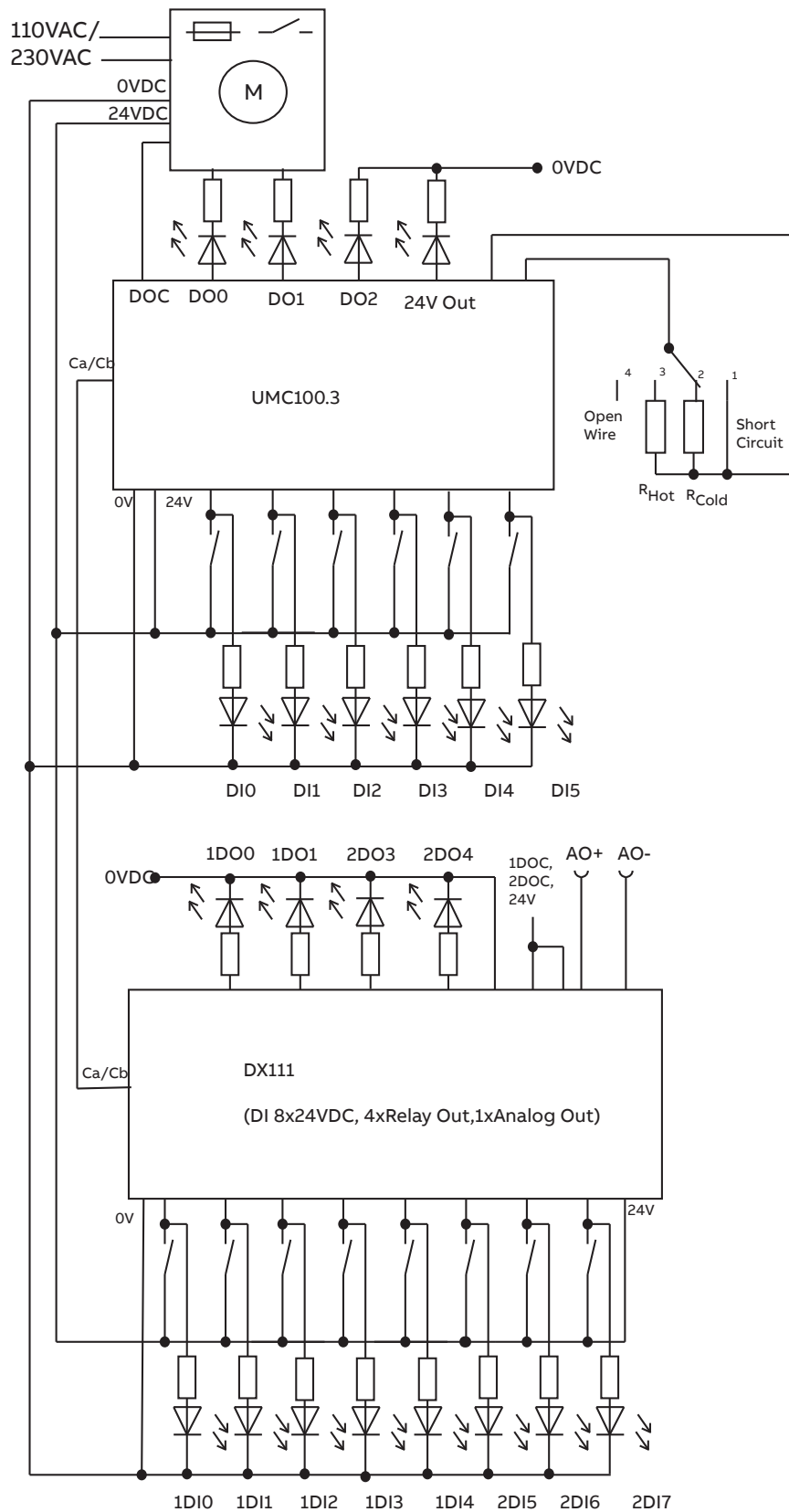


02

01 Demo case

02 Powered UMC100.3 with
operating panel lit up

Wiring diagram



Using the Analog Input Module AI111

The demo case is prepared to demonstrate using the AI111 expansion module. The expansion module and the IOIO-CAB must be ordered separately.



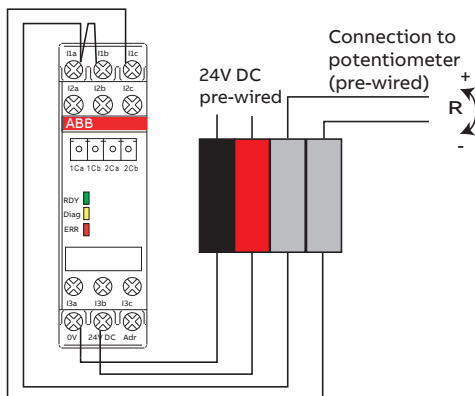
The installation of the AI111 module and wiring must be done by trained specialists in electrical installation and control and automation engineering, who are familiar with the applicable national standards.

Mechanical installation:

Snap the AI111 on the DIN rail inside the demo case

Electrical Installation:

- connect 0V of the AI111 with the black terminal block
- connect 24V of the AI111 with the red terminal block
- connect I1a of the AI111 with the first grey terminal block
- connect I1c of the AI111 with the second grey terminal block (order does not matter)
- connect I1a with I1b on the AI111
- connect the IOIO-CAB



Configuration

Set the following parameters using the UMC100.3-PAN:

Parameter	Value
Menu-> I/O modules -> AM1xx AI1 -> AM1 enabled	On
AM1 mode	Universal
AM1 Ch1 type (Keep the other channels disabled)	PT100 400°C 2 wire
Menu -> Display -> LCD Panel T Unit	Celsius / Fahrenheit

The green LED on the AI111 is on.

Navigate to the top level menu in the temperature display mask. Here you should see the temperature in the selected unit at channel one. The other two channels show "---" as they are not active and no sensor is connected. Change the position of the potentiometer between R+ and R- to change the displayed temperature.



By setting the above parameters you can only demonstrate temperature measurement using the universal mode.

To demonstrate additional functions (e.g. motor tripping), either create a custom application or connect 2 additional resistors to I2/I3 and select the temperature mode.



Technical Data

Mechanical data	
Size (Heigh x Width x Depth)	15 cm x 38.5 cm x 28.5 cm
Weight	6.5 kg

Electrical data	
Supply Voltage	230 V AC 50Hz, 110 V AC 60Hz
Fuse	T 1A (5 mm x 20 mm)
Markings	CE
Current consumption	150 mA at 230 V AC, 180 mA at 110 V AC
Temperature range	Operation: 5°C to 40°C Storage: -20°C to 60°C
Humidity	max. 80%, not condensing
Overvoltage category	II
Degree of protection	IP 20

Ordering Data		
Type	Description	Order No.
TBU22-FBP.0	Demo case for UMC100.3, Powersupply 110/230 V AC	1SAJ 928004R0002
AI111.0	Analog Input Modul	1SAJ613000R010
IOIO-CAB.03	Connection cable IO module to IO modul	1SAJ692000R0001

[illegible]



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**You can find the address of your local sales organization
on the ABB homepage**



abb.com/lowvoltage

Additional information

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