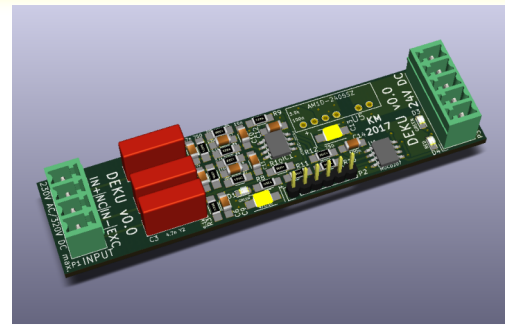


DEKU

Contact state monitor



FEATURES

- up to 230 V AC/300 V DC input voltage
- capacitive coupling
- passive mode for 230 V 50 Hz AC coil

1 TECHNICAL SPECIFICATIONS

Dimensions [mm]	96×23×33.5
Mounting	DIN rail, EN 50022
Power supply voltage	22.2 V to 26.4 V
I/O supply voltage	10 V to 36 V
Power supply current	up to 55 mA
I/O supply current	up to 20 mA + OUT
Operating temperature	5°C to 65°C
Storage temperature	-40°C to 85°C
Input/CPU isolation	≥ 1 kV DC
Power/CPU isolation	≥ 1 kV
Output/CPU isolation	≥ 1 kV
Power/Output isolation	≥ 160 V
Input DC resistance	> 1 GΩ
Input 50 Hz impedance	> 1 MΩ
Output type	push-pull
Output current ¹	> 20 mA

¹2.4 V voltage drop

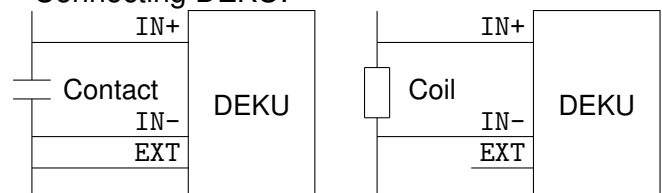
2 I/O CONNECTORS

2.1 CONTACT/COIL

1	2	3	4
IN+	NC	IN-	EXT

1	IN+	Input +
2	NC	Not connected
3	IN-	Input -
4	EXT	EXciTation

Connecting DEKU:



3 POWER/OUTPUT

1	2	3	4	5
IO GND	OUT	IO+V	GND	+24VDC
1	IO GND	I/O Ground		
2	OUT	Output		
3	IO+V	I/O Power		
4	GND	24 V Power Ground		
5	+24VDC	24 V Power Input		

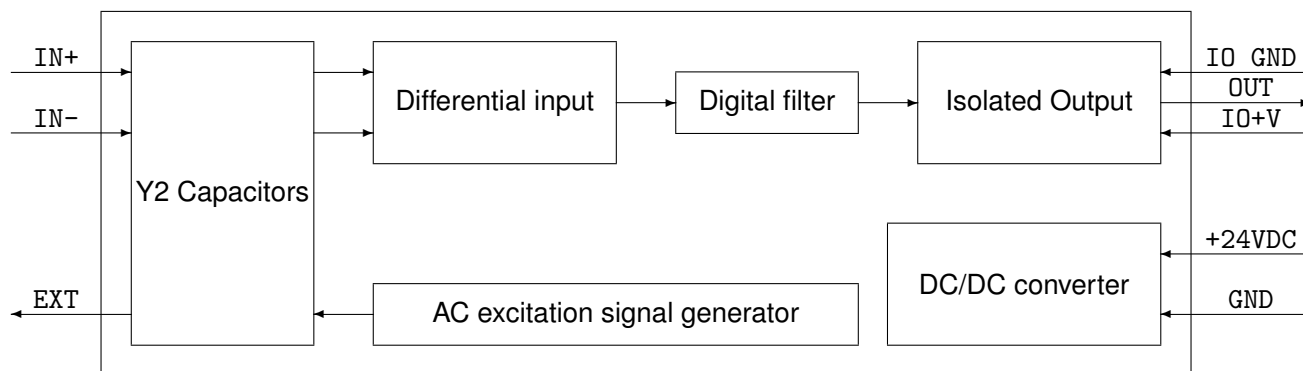


Figure 1: DEKU block diagram.

3.1 ISP INTERFACE

1	2	3	4	5	6
VCC	MISO	MOSI	SCK	RST	GND

1	VCC	5 V voltage (output)
2	MISO	Master In, Slave Out
3	MOSI	Master Out, Slave In
4	SCK	SCK/Mode select
5	RST	CPU Reset
6	GND	Ground

Connect SCK to GND to enable passive mode.

When the Contact/Coil connector is unplugged the LEDs indicate selected mode: GREEN indicated active mode, RED indicates passive mode.

4 ABSOLUTE MAXIMUM RATINGS

Parameter	Min	Max	Unit
Contact/coil voltage		240	Vrms
Power supply voltage	-30	30	V
I/O supply voltage	-5	45	V
Output current	-90	90	mA
ISP 5 V output current		100	mA

5 MODES

5.1 ACTIVE MODE

Output for Short	"0" + GREEN
Output for Open	"1" + RED
Contact Short resistance	≤ 1 kΩ
Contact Open resistance	≥ 10 kΩ
Excitation frequency	3.85 kHz
Excitation amplitude	< 3 V
Excitation impedance	> 5 kΩ
Short → Open delay	0.7 ms to 4 ms
Open → Short delay	3.8 ms to 8 ms

In active mode connect EXT signal to IN- at remote end.

5.2 PASSIVE MODE

Output for On	"0" + GREEN
Output for Off	"1" + RED
Input frequency	50 Hz
Input voltage	≥ 160 V
Off → On delay	12 ms to 25 ms
On → Off delay	10 ms to 25 ms