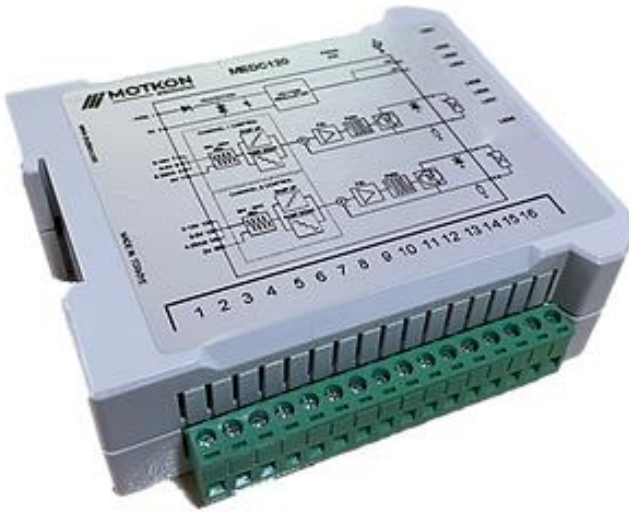
MEDC120 – Digital Proportional Amplifier

Rail Mounting Type DIN EN 50022



- **Independent proportional control for up to 2 hydraulic solenoid coils**
- **Configuration software to set:**
  - **PWM/Dither frequency**
  - **Minimum and maximum output currents**
  - **Ramp up and down durations**
- **Control with 0-5V, 0-10V and 4-20mA input signals**
- **Reverse polarity and overcurrent/voltage protection**

1. Description

MEDC120 digital proportional amplifier provides independent control for up to 2 hydraulic solenoid coils. Input signals can be 0-5V, 0-10V and 4-20mA for both channels. Control parameters are set via the configuration software. Protected against reverse polarity and overcurrent/voltage, MEDC120 minimizes load temperature effect and provides stable output.

2. Technical data

	Unit	Description, value
Supply voltage	V DC	9-32
Operating temperature	C°	[-25, 80]
Connection type		Pluggable terminal block, 16-pin and USB-A
Protection class		IP 20
Dimensions	mm	115 x 35 x 105
Maximum output current	A	2 x 3,2
Input signals	V mA	0-5, 0-10 (Outputs from ~0.6V and ~1V respectively.) 4-20
PWM/Dither frequency	Hz	Programmable in the interval [50, 350]
Status indicators		Green LEDs: Power Blue LEDs: Configuration mode Yellow LEDs: Output Red LEDs: Error

3. Functions

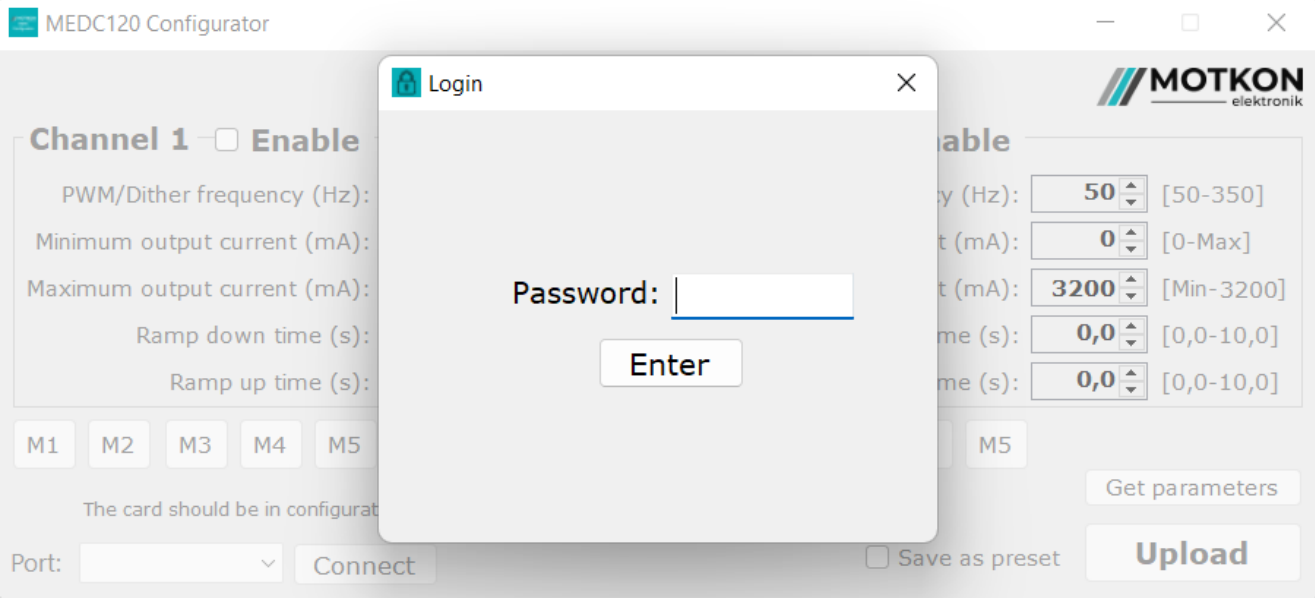
Firstly, control parameters for MEDC120 should be set from the configuration software (see 4. Configuration Software). **During configuration, programming switch should be in programming position (USB side)** and configuration (blue) LED is constantly ON when the card is ready to be programmed and during the programming process. When the programming process is complete, "Upload completed." box appears and configuration LED starts blinking.

Configuration can be done for each channel separately, therefore the output and control of the channels are independent. **After configuration, for standard operation of MEDC120, programming switch should be in the control position. (far from USB)**

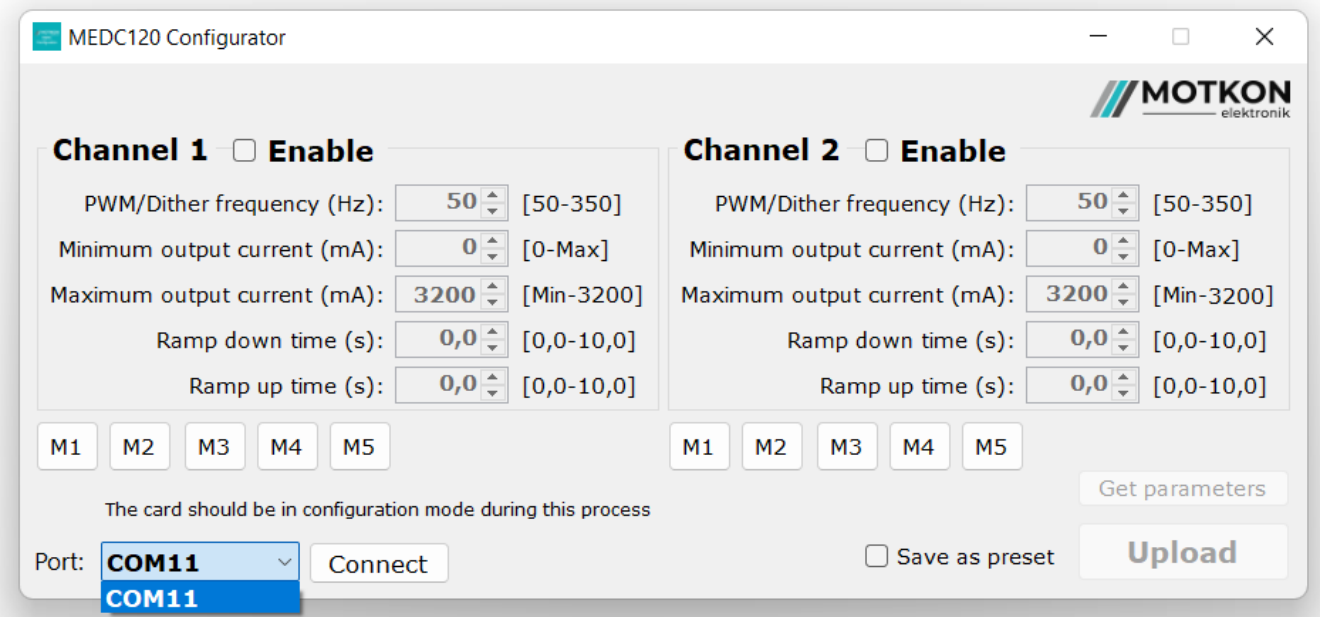
LED No	Colour	Function
LED1	Green	Power LED.
LED2	Yellow	Indicates the status of Channel 1 output.
LED3, LED4	Red	Channel 1 error LEDs. Indicates open-load and short circuit on load. When these LEDs are seen ON, power should be cut and connections should be checked.
LED5	Yellow	Indicates the status of Channel 2 output.
LED6, LED7	Red	Channel 2 error LEDs. Indicates open-load and short circuit on load. When these LEDs are seen ON, power should be cut and connections should be checked.
LED8	Blue	Indicates the card is at configuration mode. If this LED is constantly ON, the card is ready to program or being programmed. If it is blinking, the configuration is successfully done.

4. Configuration Software

When launched, the configuration software will require password to be entered as shown below. The configurator will give “Invalid password.” error if the password entered is incorrect.

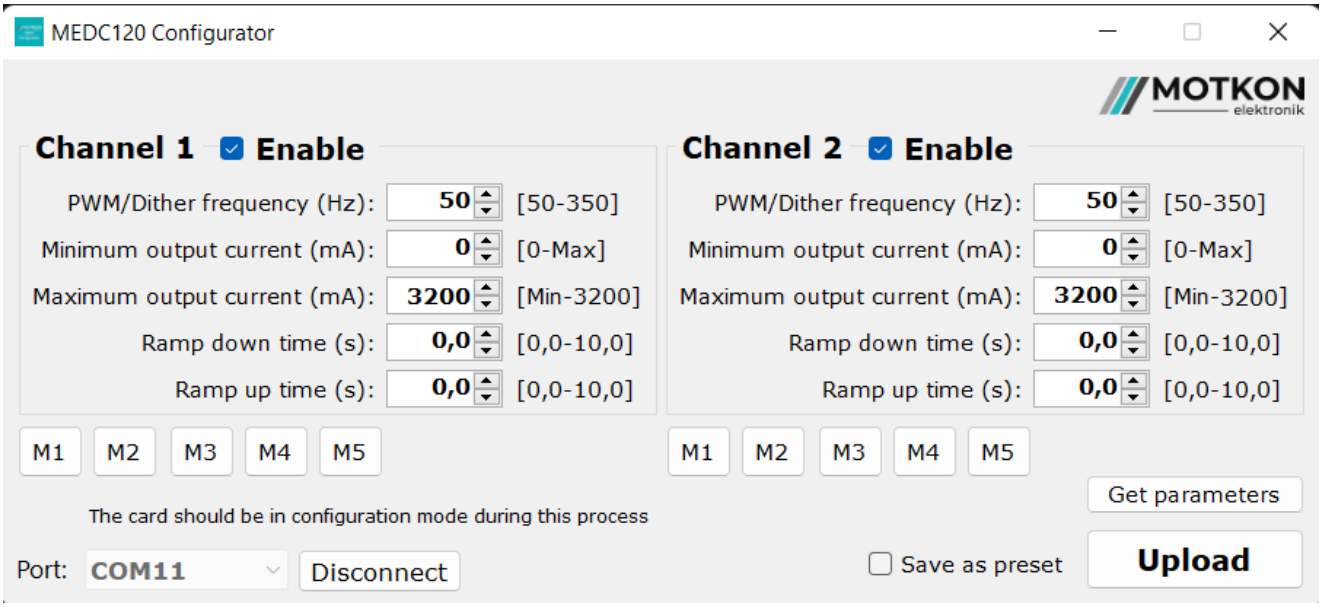


After the password is entered correctly, the configurator will allow the user to choose port and connect to it, as shown in the image below. The port connected to MEDC120 should be choosed. If the configurator cannot see the port, it will give “Port not found.” error.



After connecting to the correct port, the user will have full access to the configurator. To set parameters, the user should Enable the channels to be configured, by checking the Enable checkboxes. If the card is desired to be used for single channel, then only enabling Channel 1 is available too.

After channel(s) are enabled, the user can set parameters and also can save the parameters as presets by checking the “Save as preset” checkbox and choosing the desired preset slot (M1…M5). Preset slots are separate for each channel. Then unchecking “Save as preset” checkbox, choosing a preset will now set preset parameters instead of saving. If the user tries to set parameters from an empty preset slot, the program will give “Empty memory slot.” error. Configuration with both channels enabled is shown below.



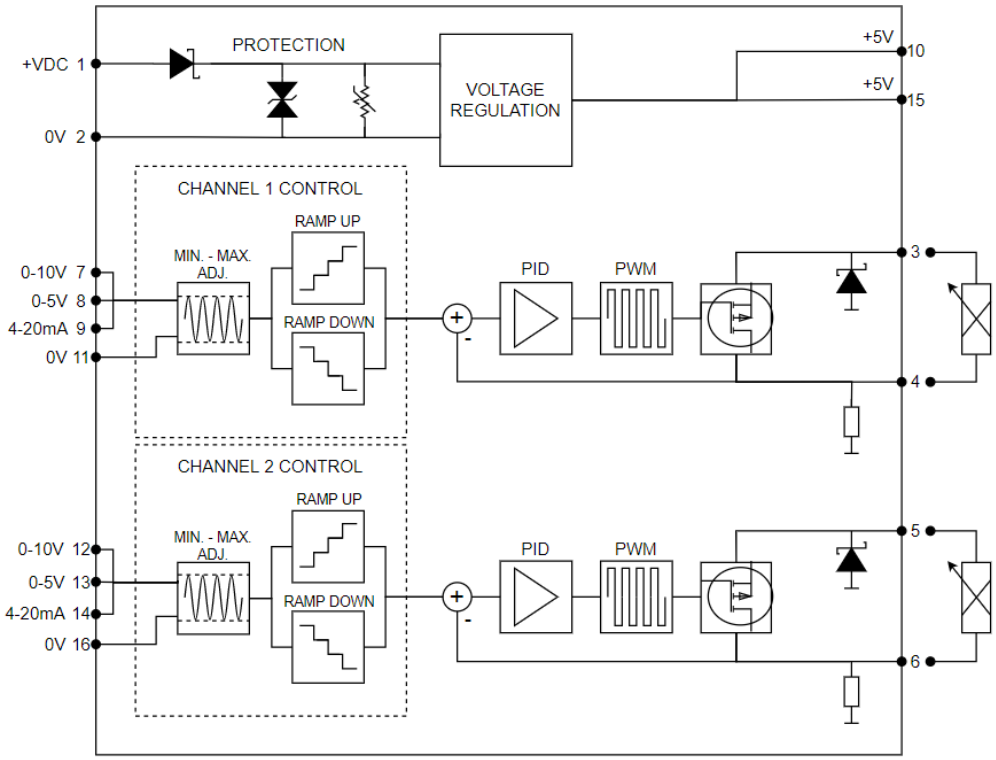
After setting the parameters, by clicking Upload button, the parameters will be loaded to the card successfully. This will show “Upload successful.” pop-up window.

The user can also get parameters from the card by clicking “Get parameters” button. The button will show the parameters which were loaded to the card before in a new window.

5. Connections

Input No	Function
1	9-32V DC Vcc
2	GND
3	Channel 1 solenoid
4	Channel 1 solenoid
5	Channel 2 solenoid
6	Channel 2 solenoid
7	Channel 1 0-10V input
8	Channel 1 0-5V input
9	Channel 1 4-20mA input
10	Optional +5V output
11	Channel 1 input GND
12	Channel 2 0-10V input
13	Channel 2 0-5V input
14	Channel 2 4-20mA input
15	Optional +5V output
16	Channel 2 input GND

6. Block diagram



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