



### ■ **Main Features**

- Ultra-compact DC Overcurrent Protector with 2 independent High channels
- Classic circuit breaker shape
- Input: 10...31Vdc / 20A Max.
- Output: 10A Max. / channel (user settable, independently)
- Digital Power regulation
- Programmable Static Switch function
- Advanced CPU control – allows set-up of various tripping curves
- Modbus over USB interface for control and monitoring
- Suitable for **POWERMASTER** software (available for Windows and Android)

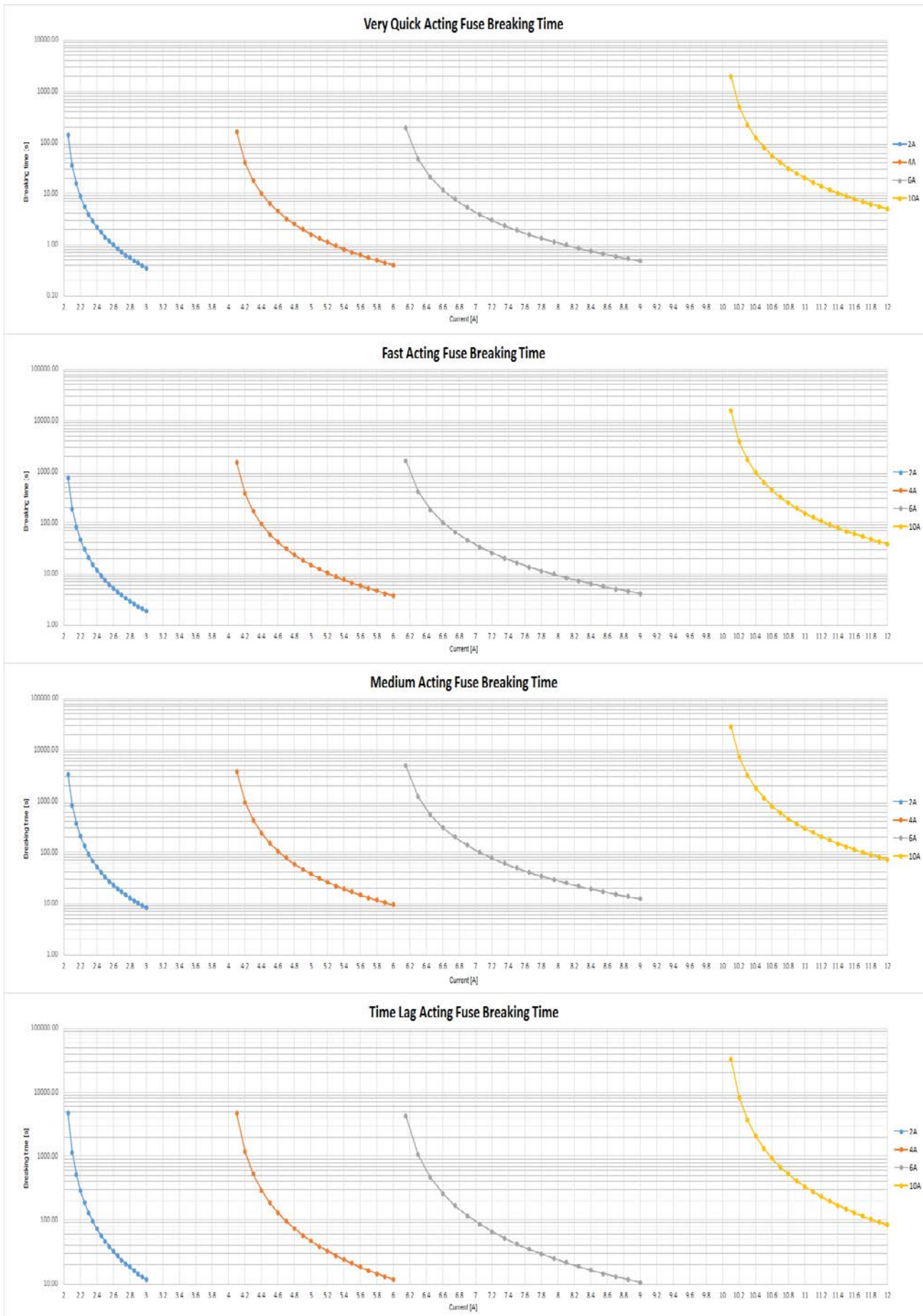
## TECHNICAL DATA

Model type	NEF210	
<b>GENERAL DATA</b>		
Rated surge voltage	0.5kVdc	
Input DC rated voltage	10...31Vdc	
Maximum input current	20A	
Maximum capacitive load circuit	> 40000µF (per channel at 24Vdc)	
Active current limitation	1.5 x I <sub>N</sub> (2A / 4A / 6A), 1.2 x I <sub>N</sub> (10A)	
Tripping thresholds	2A / 4A / 6A / 10A per channel, user settable via front keys or USB	
Time - current characteristic (see charts on Fig.1)	<ul style="list-style-type: none"> <li>▪ Very Quick Acting</li> <li>▪ Fast Acting</li> <li>▪ Medium Acting</li> <li>▪ Time Lag</li> <li>▪ User settable via Modbus</li> </ul>	
Waiting time after switch OFF of a channel	20s (overload / short circuit)	
Conduction resistance	< 25mΩ	
Efficiency	> 98.5%	
Dissipated power	< 5.5W	
Standby power	< 1W	
Required backup fuse	Not required, integrated failsafe element	
Internal protection fuse	15A <sub>dc</sub> (per output channel)	
Protections	Overvoltage > 33V	
Status Signals	<ul style="list-style-type: none"> <li>▪ <b>OUT A/B</b> - OK one LED of the channel is ON</li> <li>▪ <b>OUT A/B</b> - TRIPPED all the LEDs of the channel are blinking</li> <li>▪ <b>STATUS SIGNAL</b> - remote fault indicator (at least 1 channel tripped) by optoisolator (30Vdc / 50mA / Open collector)</li> </ul>	
User interface	<ul style="list-style-type: none"> <li>▪ <b>RESET</b> - remote reset INPUT by optoisolator (5...30Vdc / 20mA)</li> <li>▪ <b>SET A/B</b> - key for channel arming / rearming</li> <li>▪ Modbus over mini <b>USB-B</b> interface, suitable for <b>POWERMASTER</b> software</li> </ul>	
Operating temperature	- 40°C...+ 70°C	
Derating	No derating	
Storage temperature	- 40°C...+ 80°C	
Humidity	5...95% r.H. non condensing	
Overvoltage category	▪ EN50178	I
Pollution degree	▪ IEC60664-1	2
Protection Class	▪ Class	II
Safety Standards	▪ EN60950	(reference)
	▪ EN50178	(reference)
EMC Emission	▪ EN55011 (CISPR11)	Class B
	▪ EN55022 (CISPR22)	Class B
EMC Immunity	▪ EN61000-4-2	Level 3
	▪ EN61000-4-3	Level 3
	▪ EN61000-4-4	Level 2
	▪ EN61000-4-5	Level 1
	▪ EN61000-4-11	Level 2
Protection degree	▪ EN60529	IP20
Vibration sinusoidal	▪ IEC 60068-2-6	(5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)
Shock	▪ IEC 60068-2-27	(30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)
Connection terminals	2.5mm <sup>2</sup> , screw type header (24...12AWG)	
Case material	Plastic, Flame retardant UL94 V-0	
Weight	0.10kg	
Size (W x H x D)	35.0 x 90.0 x 61.5mm	

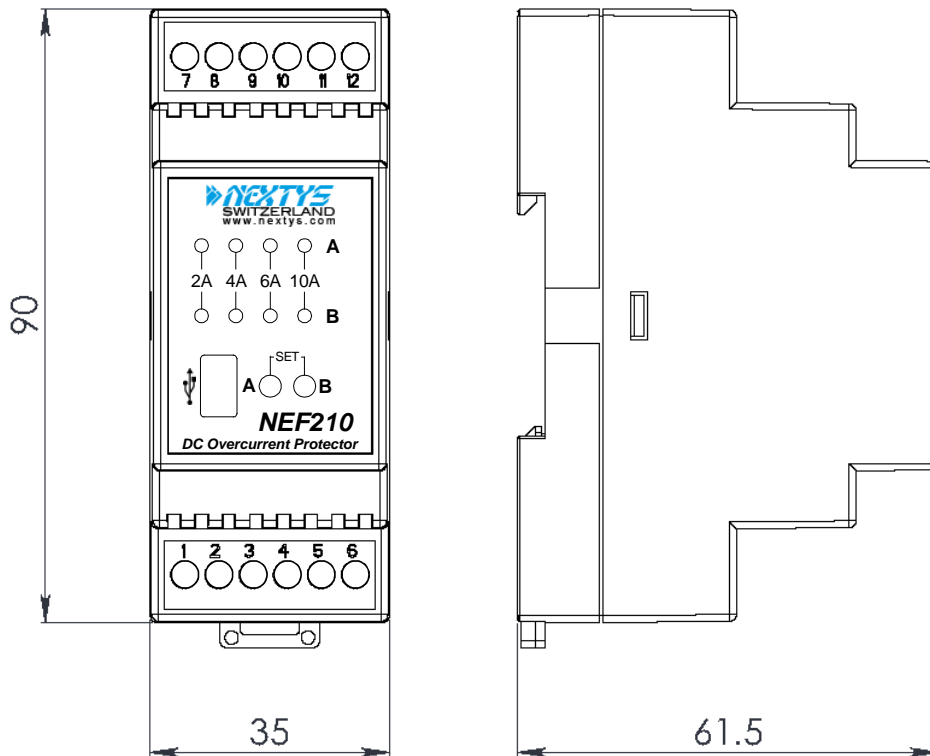
## Notes:

- For more details, performance and descriptions regarding all parameters not indicated in the above table, please refer to the user manual downloadable from [www.nextys.com](http://www.nextys.com)
- Technical parameters are typical, measured in laboratory environment at 25°C and 24Vdc, at nominal values, after minimum 5 minutes of operation.
- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.
- Data may change without prior notice in order to improve the product.

Fig.1



## DIMENSIONS



## CONNECTION



## Input Connection:

- += Positive DC (1/2)
- -= Negative DC (3/4)

## Output Connection:

- Output A:**
- += Positive DC (8)
  - -= Negative DC (7)
- Output B:**
- += Positive DC (12)
  - -= Negative DC (11)

## Signalling:

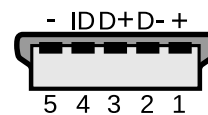
**STATUS SIGNAL:**  
(30Vdc / 50mA Open collector)

- += Positive DC (10)
- -= Negative DC (9)

**RESET:** (5...30Vdc / 20mA)

- += Positive DC (6)
- -= Negative DC (5)

## Mini USB-B Type



- 1 = VBUS (+5V)
- 2 = Data (D-)
- 3 = Data (D+)
- 4 = Not connected (ID)
- 5 = GND