Main Features

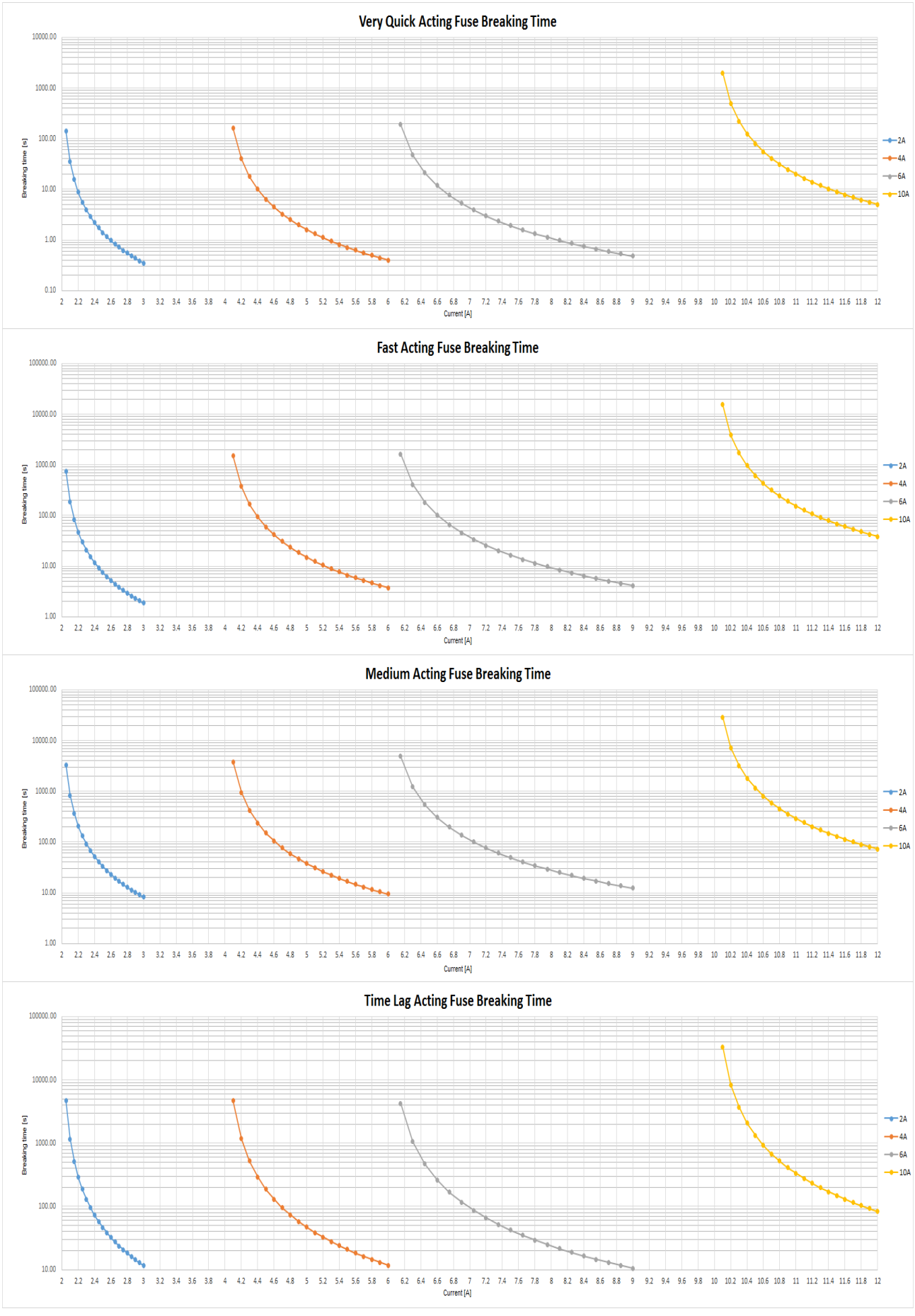
- Ultra-compact DC Overcurrent Protector with 2 independent channels
- Classic circuit breaker shape
- Input: 10…31Vdc / 20A Max.
- Output: 10A Max. / channel (user settable, independently)
- Digital Power regulation
- Programmable Static Switch function
- Advanced CPU control – allows set-up of various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

TECHNICAL DATA

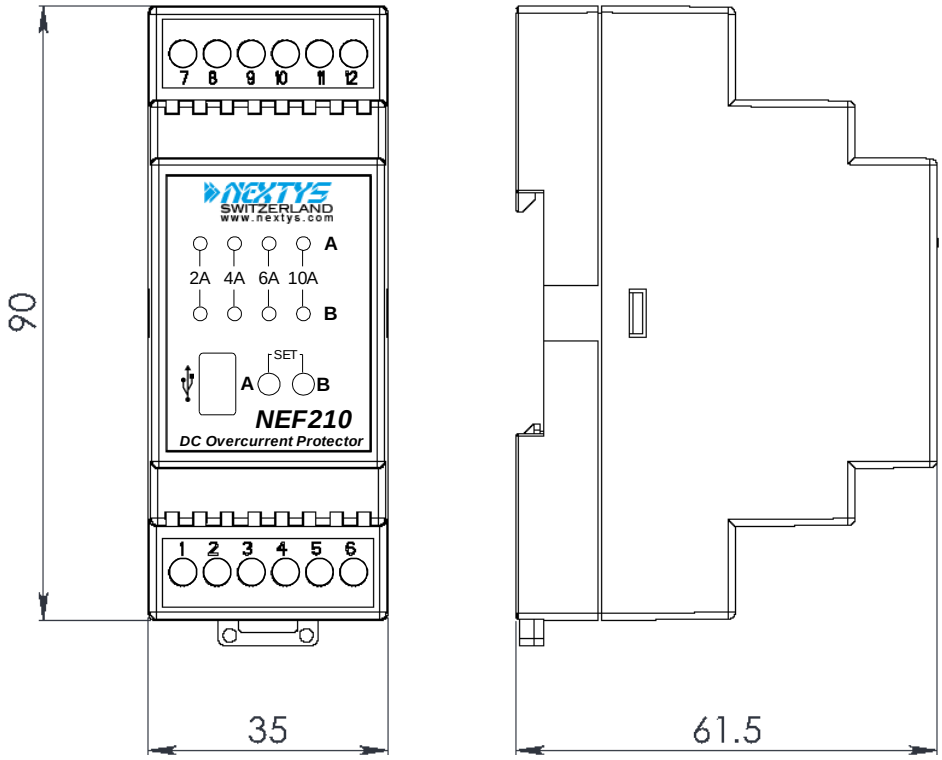
Model type	NEF210	
GENERAL DATA		
Rated surge voltage	0.5kVdc	
Input DC rated voltage	Nominal: 12…24Vdc Range: 10…31Vdc (UL certified)	
Maximum input current	20A	
Maximum capacitive load circuit	> 40000µF (per channel at 24Vdc)	
Active current limitation	1.5 x I_N (2A / 4A / 6A), 1.2 x I_N (10A)	
Tripping thresholds	2A / 4A / 6A / 10A per channel, user settable via front keys or USB	
Time - current characteristic (see charts on Fig.1)	▪ Very Quick Acting ▪ Fast Acting ▪ Medium Acting ▪ Time Lag ▪ User settable via Modbus	
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	15Adc (per output channel)	
Protections	Overvoltage > 33V	
Status signals	▪ **OUT A/B** - OK one LED of the channel is ON ▪ **OUT A/B** - TRIPPED all the LEDs of the channel are blinking ▪ **STATUS SIGNAL** - remote fault indicator (at least 1 channel tripped) by optoisolator (30Vdc / 50mA / Open collector)	
User interface	▪ **RESET** - remote reset INPUT by optoisolator (5…30Vdc / 20mA) ▪ **SET A/B** - key for channel arming / rearming ▪ Modbus over mini **USB-B** interface, suitable for **POWERMASTER** software	
Operating temperature	- 40°C…+ 70°C UL certified up to 65°C	
Derating	No derating	
Storage temperature	- 40°C...+ 80°C	
Humidity	5…95% r.H. non condensing	
Overvoltage category Pollution degree	▪ EN50178 ▪ IEC60664-1	I 2
Protection class	▪ Class	II
Safety standards	▪ UL508 ▪ EN60950 ▪ EN50178	(certified E356563) (reference) (reference)
EMC emission	▪ EN55011 (CISPR11) ▪ EN55022 (CISPR22)	Class B Class B
EMC immunity	▪ EN61000-4-2 ▪ EN61000-4-3 ▪ EN61000-4-4 ▪ EN61000-4-5 ▪ EN61000-4-11	Level 3 Level 3 Level 2 Level 1 Level 2
Protection degree	▪ EN60529	IP20
Vibration sinuosoidal	▪ 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	2.5mm², 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
- 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.

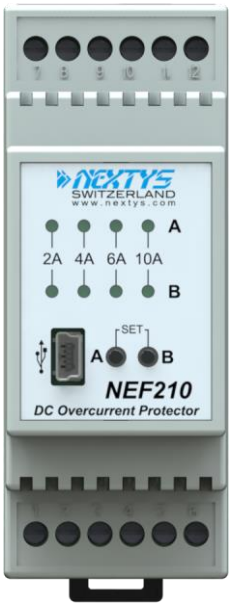
Fig.1


Very Quick Acting Fuse Breaking Time
Breaking time [s]
Current [A]
2A
4A
6A
10A
Fast Acting Fuse Breaking Time
Breaking time [s]
Current [A]
2A
4A
6A
10A
Medium Acting Fuse Breaking Time
Breaking time [s]
Current [A]
2A
4A
6A
10A
Time Lag Acting Fuse Breaking Time
Breaking time [s]
Current [A]
2A
4A
6A
10A

DIMENSIONS



CONNECTION



Input Connection:

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

Output Connection:

Output A:
- + = Positive DC (8)
- - = Negative DC (7)

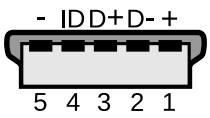
Output B:
- + = Positive DC (12)
- - = Negative DC (11)

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