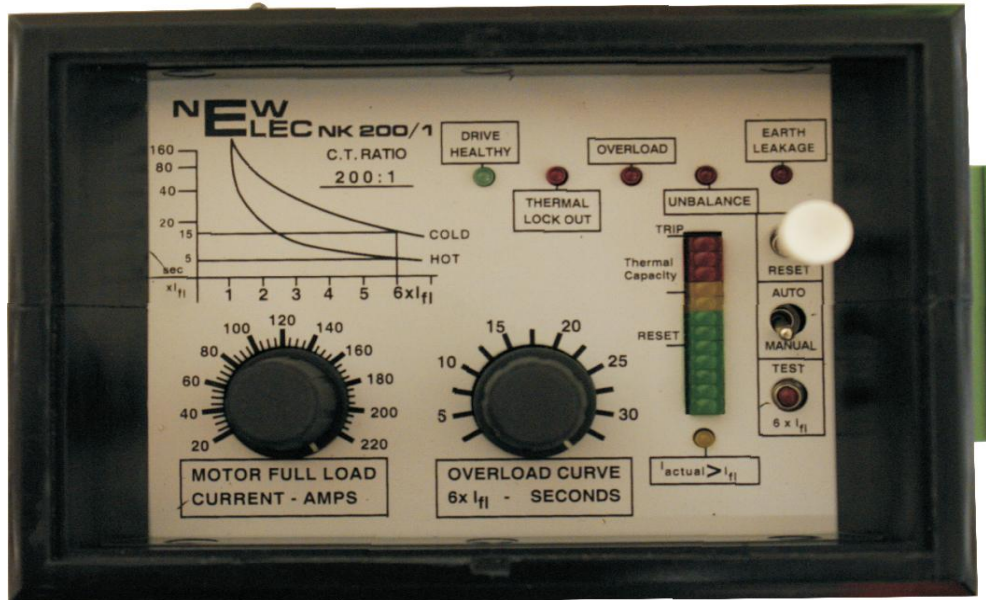


Electronic Motor Protection Relay

NewElec N Series



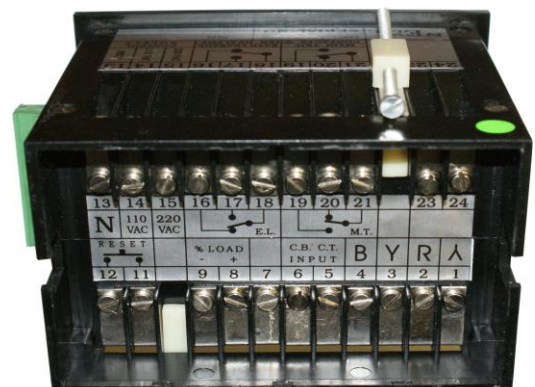
The N Series electronic motor protection relays are housed in a versatile enclosure which caters for door mount, chassis mount or C.T. Module mounting.

Protection features include selectable thermal curves (Class 5 - 30) with thermal pre-loading to match the safe HOT and COLD stall times of a motor during operation. Designed to IEC 60255-8, the N-Series provide overload protection for cyclic or sustained loads, as well as unbalanced current, single phasing, earth leakage and earth fault protection, with an option to transfer the trip to incoming MCCB to prevent contactor opening on high energy faults, ensuring type 2 co-ordination.

PLC interface via remote I/O can be implemented, a 4-20mA output indicating motor load current as well as individual potential free N/O contacts for thermal lock-out, overload, unbalanced current and earth leakage. Resetting or clearing the fault latch can be performed by pressing the control panel mounted push button, momentarily bridging terminals 11 and 12, or by providing a reset pulse of 24 to 240V AC or DC between terminals 33 and 34.

Features Include:

- Thermal Overload Protection
- Locked Rotor Protection
- Running Stall / Jam Protection
- Unbalanced Current / Single Phasing
- Earth Leakage Protection
- Earth Fault Protection
- Retentive fault indication
- Local / remote LED fault indication
- Fail safe main trip relay operation
- Over current test facility
- 4 to 20mA motor load indication
- Remote reset 24 to 220V AC or DC



NewElec N Series

Features

Relay Model

	NE	NH	NI	NJ	NK
Thermal overload protection (Class 2,5 to 32,5)	✓	✓	✓	✓	✓
Locked Rotor protection	✓	✓	✓	✓	✓
Jam protection (running stall)				✓	✓
Thermal memory	✓	✓	✓	✓	✓
Phase unbalance / loss protection	✓	✓	✓	✓	✓
250mA earth leakage protection with blocking intelligence if full current exceeds 800% M.F.L. *		✓		✓	
250mA earth leakage protection with dedicated C/O contact for shunt tripping facility for MCCB irrespective of fault current level *			✓		✓
Interface facility to PLC: <ul style="list-style-type: none"> • % load current 4-20mA loop • 4 potential free N.O. Contacts for signalling purposes to remote control room in respect of overload, phase unbalance, earth leakage and thermal lockout • PLC reset facility (24-220V AC or DC) 				✓	✓
Local reset facility	✓	✓	✓	✓	✓
Remote reset facility	✓	✓	✓	✓	✓
Thermal LED bargraph display	✓	✓	✓	✓	✓
Fail safe with memorised thermal status of motor and trip fault condition	✓	✓	✓	✓	✓
Output contacts: <ul style="list-style-type: none"> • MAIN trip consists of 2 C/O contact for fault condition • Main trip consists of 1 C/O for overload, unbalance, run stall, earth leakage and 1 C/O for Shunt tripping MCCB 	✓	✓	✓	✓	✓

* This is to maintain Type 2 Co-ordination ensuring that the main contactor is not used to interrupt a high energy current which will exceed the contactor rupturing capacity.

Ordering Details

Model	Current Range	C.T. Secondary	Mounting configuration	S - user selectable
See Above	050 = 5 to 55 Amp	1 Amp or 5 Amp	F = Flush door mounting	110V or 220V AC Auxillary
	200 = 20 to 220 Amp		C = Chassis mounting	
	500 = 50 to 550 Amp		M = C.T. Module mounted	
	100 = % callibration			

EXAMPLE: NJ/ 200/ 1/ F/ S

NewElec N Series

Technical Information

Product Specifications

Input Current

Class	: Class 5P10 (0,1VA)
Secondary Rating	: 1A (5A on Request)
Nominal Output	: 2,5 VA

Overload Reset Delay

Two stage thermal memory matched to overload curve selection

Unbalance / Single Phasing Setting

Level (I_2)	: 30% I_{act}
Trip Delay	: 5s
Operation	: Block $I_{act} < 20\% I_e$

Running Stall Protection

Detection Level	: 300% of Maximum Load Dial Setting with a 1s Trip Delay
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Earth Leakage

Level	: 250mA
Trip Delay	: 100ms
Operation	: Block $I_{act} > 800\% I_e$ for NH & NJ

Overload Withstand Ratings

10 x rated current	: Continuous
100 x rated current	: 1s
Burden	: <0,1VA
Current setting range	: 10 to 110% I_n
Calibration	: Amps R.M.S.
Response	: Filtered Peak value output 3 Ph rectifier
Current Detection level	: 102% of set I_e
Current operation level	: 104% of set I_e
Repeatability	: 1% of detection level
Current setting accuracy	: $\pm 3\%$ of rated current
Overload curve accuracy	: $\pm 5\%$ 120% I_e to
Fault Indication	: 800% I_e
	: $\pm 10\%$ 105% I_e to
	: 119% I_e

Output Relay

Contacts	: 2 x Changeover
Rating	: 6A at 250VAC
Isolation	: 2kV between circuits
	: 1kV across N.O. contacts
Auxillary Supply	: 110V or 220V A.C.
Operating Range	: 85 to 120% of specified voltage
Burden	: 3VA
Frequency Range	: 45 to 65Hz
Operating Temperature	: -10° to +50°C

Environmental Specifications

Reference Standards IEC 255

Isolation N/O contact
1kV to IEC 255-5 Appendix A

Impulse Withstand

Transient 5kV To IEC 255-5 Appendix D

Isolation Separate Contacts

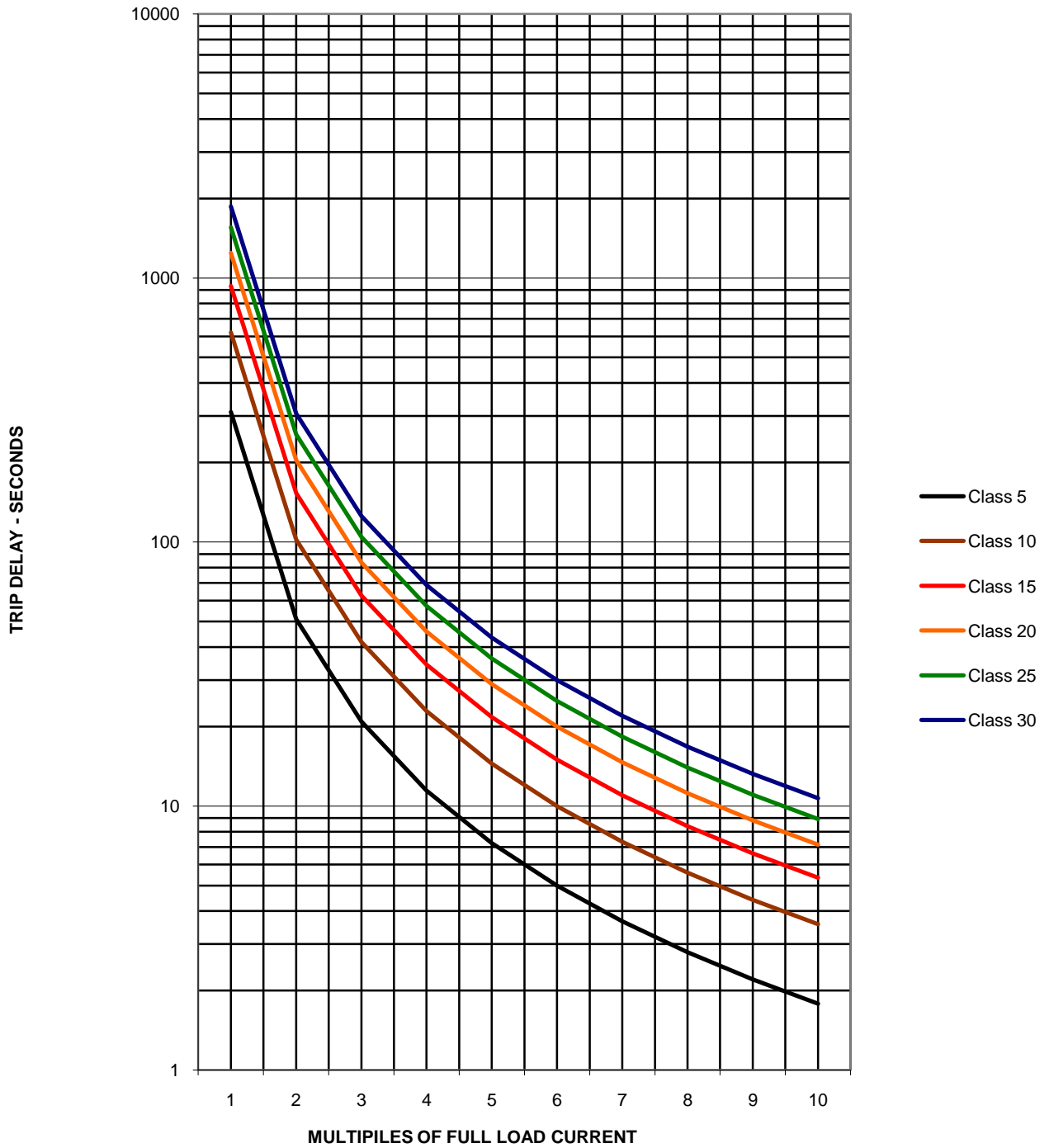
2kV between all separate circuits to IEC 255-5 App. A

High Frequency Disturbance

1 MHz modulated
400Hz 1kV to IEC 255-8 Appendix E (Class III)

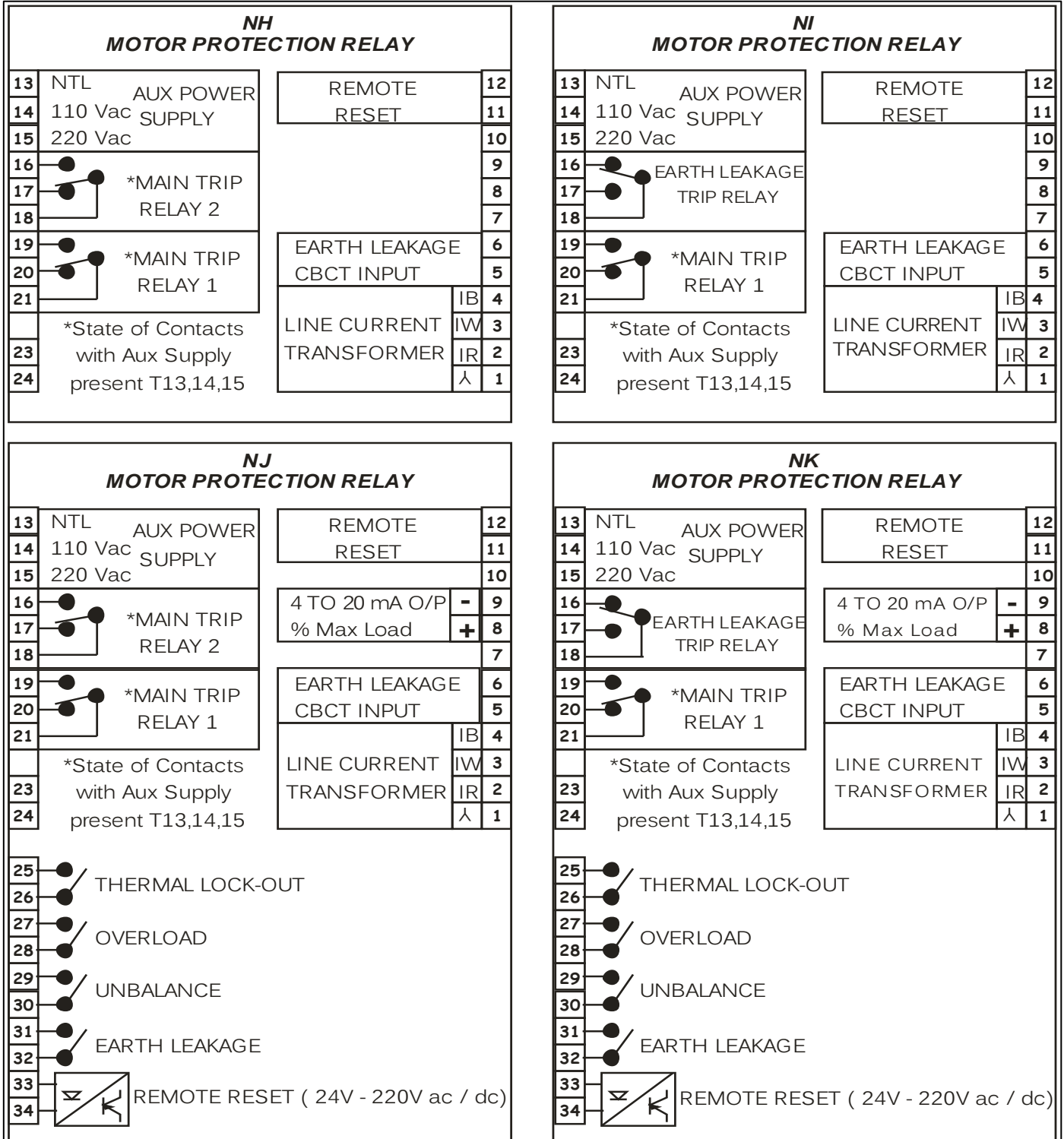
NewElec N Series

NE- NH- NI- NJ- NK RELAY THERMAL CURVES



NewElec N Series

Wiring Diagram



NewElec N Series

Dimensional Diagram

