

# TIME RELAY AND PROTECTION RELAY WITH NFC TECHNOLOGY AND APP



 **Lovato**  
**electric**

ENERGY AND AUTOMATION

**MULTIFUNCTION TIME RELAY,  
COUNTER AND HOUR COUNTER,**  
multiscale and multivoltage  
1 output contact  
NFC technology and App

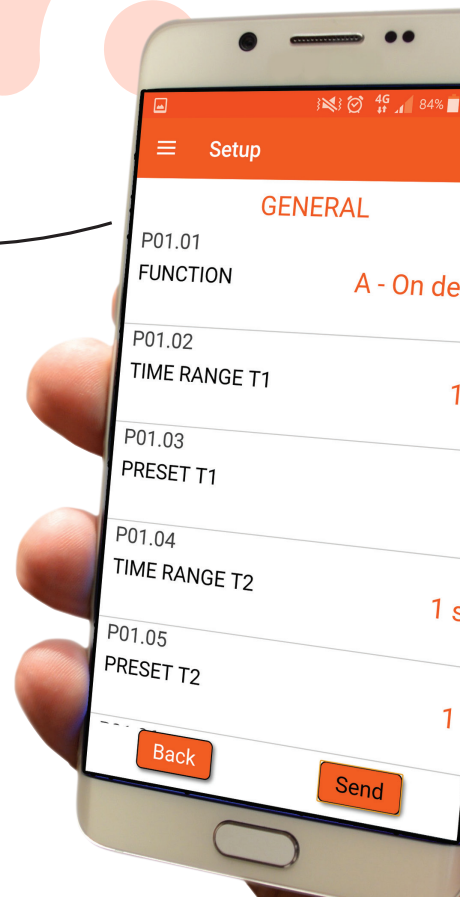
# TMM1NFC



**MULTIFUNCTION PROTECTION RELAY,**  
with voltage and frequency monitoring  
for three-phase systems with or without neutral  
1 output contact  
NFC technology and App



# PMV95N...NFC





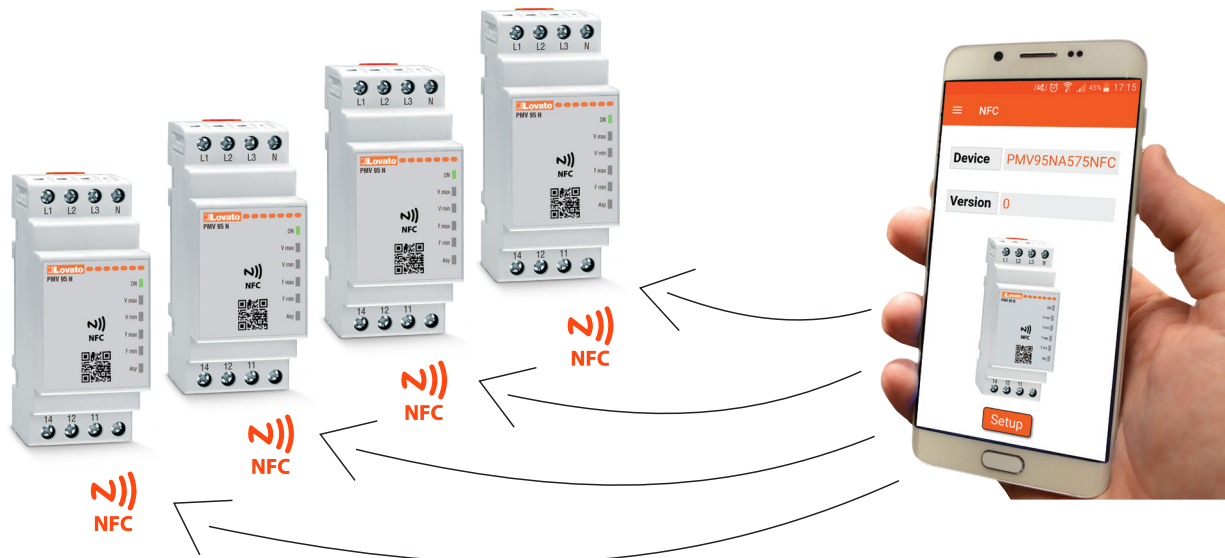
## Accuracy of settings |

Programming via NFC ensures **excellent accuracy** in time settings and tripping thresholds.

## Repeatability of settings |

Programming can be saved to a smart device for extremely rapid copying to other timers or protection relays via NFC, **even without having to power the devices on.**

This ensures a significant **reduction in setup times**, especially for series programming, as well as the **easy correction of setting errors and repeatability.**



## Protection of settings |

Access to settings can be protected by setting a 4-digit password using the LOVATO NFC App. This prevents parameter settings being modified by unauthorised personnel.



## Simple and intuitive programming |

The LOVATO NFC App makes programming extremely intuitive, rapid and flexible thanks to a graphic interface that displays selected functions and parameters directly on the screen of the Android and iOS smart device (smartphone or tablet), eliminating the need to consult the manual.



ENERGY AND AUTOMATION





Order code

## TMM1NFC

- Multifunction, multiscale and multivoltage time relay with NFC technology and App
- Hour counter
- Counter
- Auxiliary power supply: 12...240VAC/DC
- Time of scale range: from 0.1 seconds to 999 days
- 1 relay output with changeover contact, 8A 250VAC
- DIN43880 modular housing (1 module), suitable for mounting on 35mm DIN rail
- Certifications: cULus, EAC
- QR code on front for direct access to the website [www.LovatoElectric.com](http://www.LovatoElectric.com) to download the technical manual.

### EXTENSIVE SET OF TIMER FUNCTIONS

#### 40 available functions

On delay, off delay, flasher (pause-work), pulse generator, ON-OFF trigger, watchdog, pulse on relay energising at contact opening or closing, analog filter, etc.

Several variants of the above functions are also available, including the possibility to pause timing and reload or reset the counting by closing an external contact.

### FULLY INTERCHANGEABLE

#### with traditional potentiometer versions

The many functions integrated in the TMM1NFC include those of the following potentiometer-based timers:

- TMM1 (multifunction)
- TMP (on delay)
- TMPL (recycle with independent timings)

Terminal numbering identical to potentiometer versions makes the TMM1NFC fully interchangeable without having to modify connections.

### EXTERNAL COMMAND INPUT

The TMM1NFC incorporates a command input (S) that can be connected to an external contact for one of the following functions:

- start of timing function;
- pause of timing;
- reset of timing.

### 3 PRODUCTS IN ONE

**Timer:** can perform any of 40 available timing functions.

**Counter:** simultaneously with the timing function, a threshold can be set for the number of times the timer output closes. When this threshold is reached, the TMM1NFC deactivates the function for which it is programmed. The timer must then be switched off and back on to reset the counter and restart.

*Possible applications:* counting pieces passing under a photocell or controlling the activation of a turnstile with a limited number of accesses, etc..

**Hour counter:** the TMM1NFC can be used to count the hours for which a machine functions. The hour count is saved in the unit's internal memory (non-volatile) and an output contact is energised to signal that the programmable threshold has been reached. The LOVATO NFC App permits monitoring of the value of the hour counter.

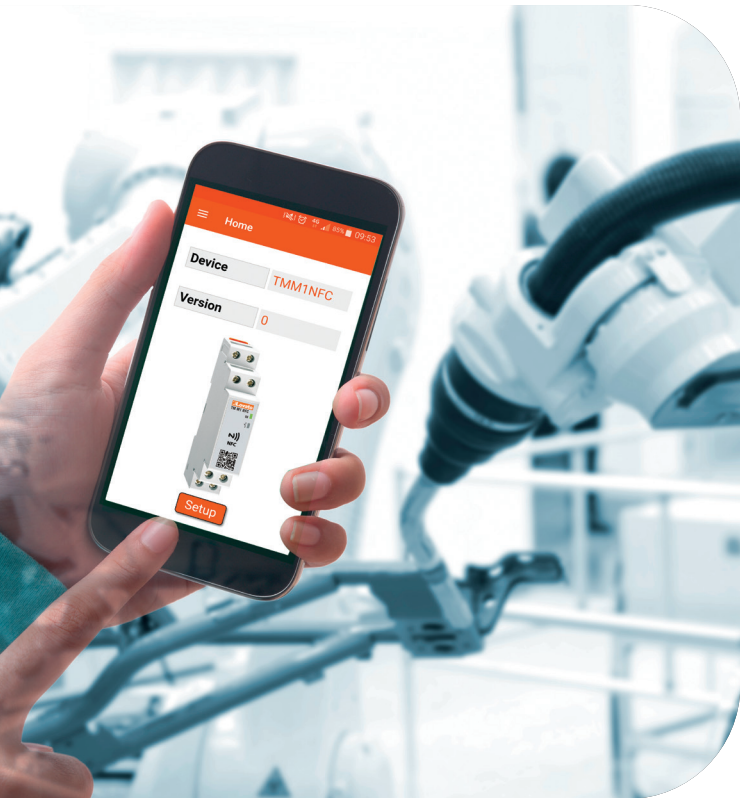
*Possible applications:* signalling a request of maintenance of a machinery after a certain number of working hours.

### RESET MODE

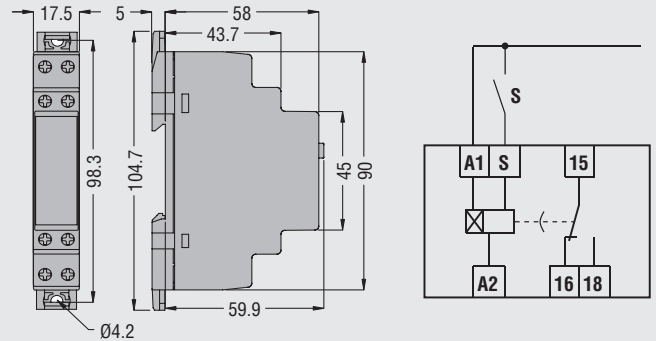
In the case of functions activated by the external command input (S), a parameter can be set to establish the method of resetting the function, i.e. the condition necessary for re-starting the function after its first execution. Two options are available:

- **input (INP):** the function is re-performed every time the command input (S) is closed;
- **power (PWR):** after the first execution of the function, the time relay locks out and the function is no longer executed (new closures of the command input are ignored). The time relay must be powered off and on again to restart.



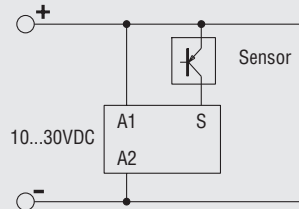


## DIMENSIONS AND WIRING DIAGRAMS

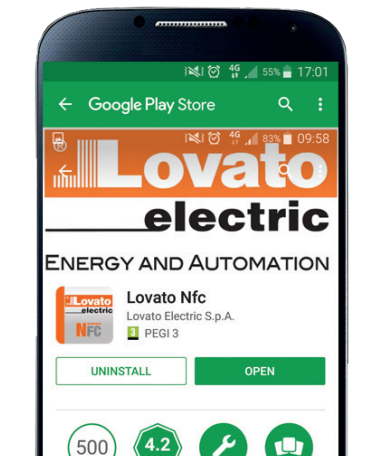
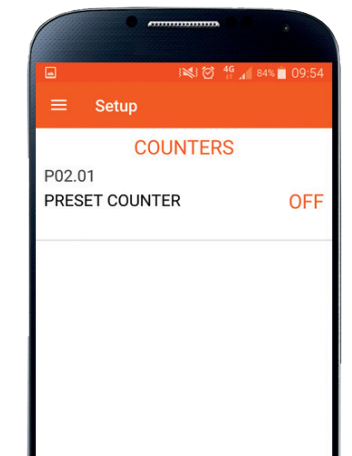
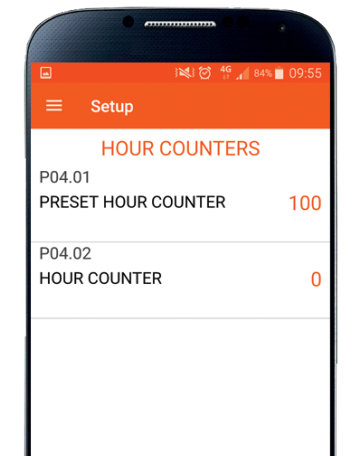
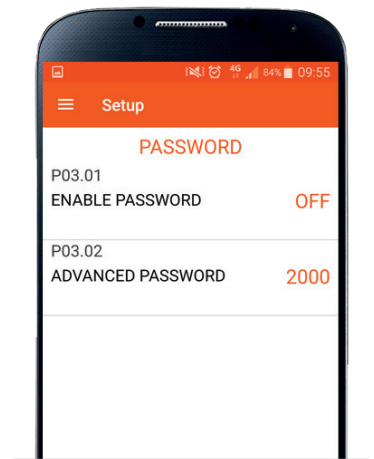
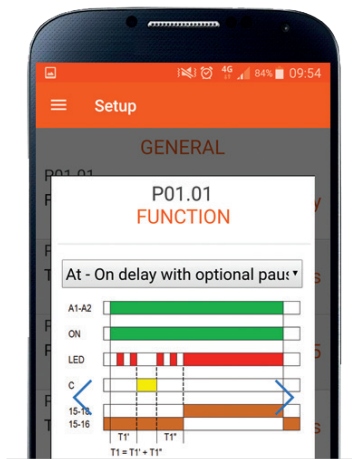
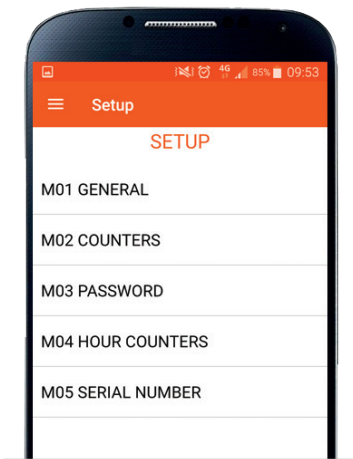
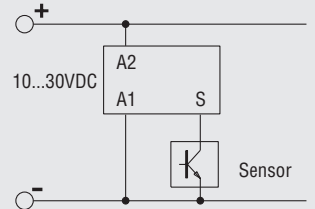


### COMMAND WITH STATIC OUTPUT

Connection to a sensor with PNP output



Connection to a sensor with NPN output



# PROTECTION RELAY WITH NFC TECHNOLOGY AND APP



Order codes

**PMV95NA240NFC**  
**PMV95NA575NFC**

- Multifunction protection relay with voltage and frequency monitoring for three-phase systems with or without neutral, with NFC technology and App
- Self-powered from mains
- Rated control voltage (phase to phase):  
- 208...240VAC (code PMV95NA240NFC)  
- 380...575VAC (code PMV95NA575NFC)
- Rated frequency 50/60Hz
- 1 relay output with changeover contact, 8A 250VAC
- DIN43880 modular housing (2 modules), suitable for mounting on 35mm DIN rail
- Certifications: cULus, EAC
- QR code on front for direct access to the website [www.LovatoElectric.com](http://www.LovatoElectric.com) to download the technical manual.



## 8 PROTECTION FUNCTIONS

The PMV95N...NFC includes **all the functions** of PMV... series protection relays with potentiometer:

- maximum voltage;
- minimum voltage;
- maximum frequency;
- minimum frequency;
- asymmetry;
- phase loss;
- neutral loss;
- incorrect phase sequence.

## COMPACT SIZE

The PMV95N...NFC is designed for use on three-phase systems **with or without neutral** and provides **1 output relay** with changeover contact. It comes in a **2 DIN module** modular housing.

## ENABLING OF INDIVIDUAL FUNCTIONS

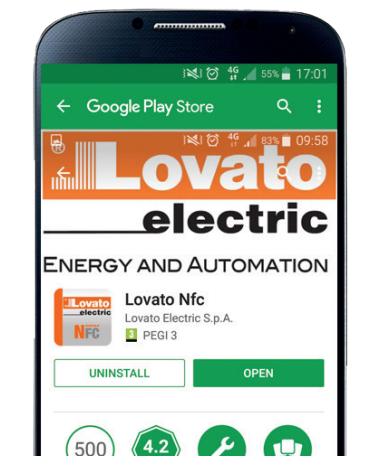
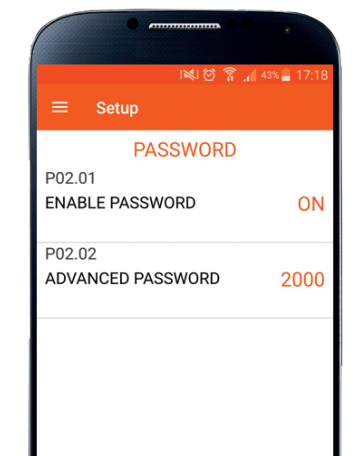
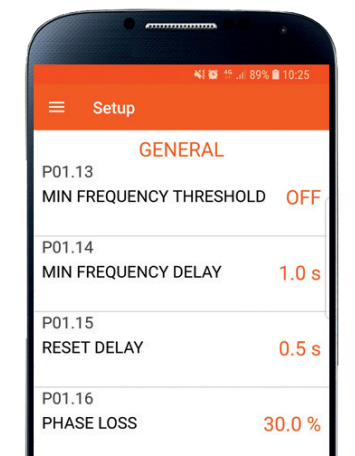
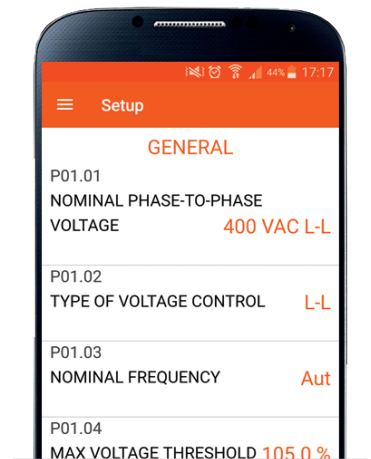
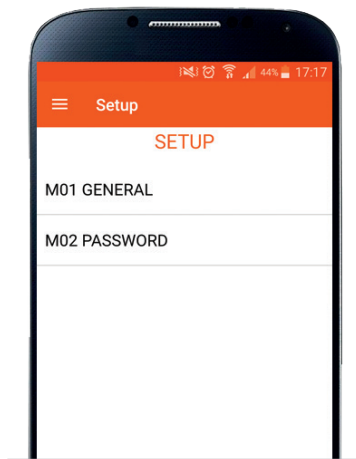
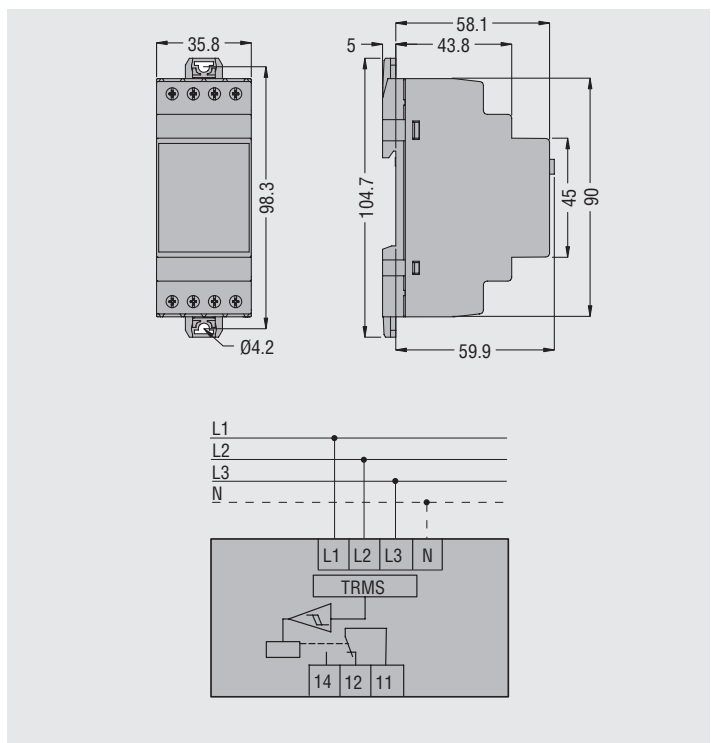
The LOVATO NFC App can be used to enable or disable protection functions individually.



	PMV95N...NFC	PMV50N	PMV70N	PMV80N
Modular version	● (2U)	● (3U)	● (3U)	● (3U)
NFC technology and App	●			
Settings via potentiometers		●	●	●
Minimum AC voltage	●	●	●	●
Maximum AC voltage	●	●	●	●
Phase loss	●	●	●	●
Neutral loss	●	●	●	●
Incorrect phase sequence	●	●	●	●
Asymmetry	●		●	
Minimum frequency	●			●
Maximum frequency	●			●



**DIMENSIONS AND WIRING DIAGRAMS**



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