



EMMECI ELETTRONICA

BOLOGNA - ITALY



Programmable driver with over-boost NEPTUNE-PLUS

NEPTUNE-PLUS is an innovative product of Emmeci Elettronica and is the update version of the NEPTUNE6 and that contains, in a small din-rail case, a programmable logic unit with functions similar to a PLC (logic gates, timing and memorization), and a driver with over-boost capable of speeding up the activation of electromechanical or electropneumatic actuators.

The programming of NEPTUNE-PLUS with a common PC is easy and it doesn't require any knowledge of programming languages.

NEPTUNE-PLUS potentiality

NEPTUNE-PLUS is equipped with 9 inputs and 2 outputs.

Each output function depends on the state of the 6 inputs, according to a truth table.

The set up of the table can be done with a PC provided of the NeptunePlus-COM software. Additional 3 inputs allow the management of special functions.

The function of over-boost variable duration can be enabled on each output, as well as the output timing.

Furthermore, a start/stop function can be associated with the inputs, allowing the memorization of specific conditions.

Thanks to the small case, low cost and speed of management of the inputs, NEPTUNE-PLUS is highly competitive against PLC of medium/high level.

NEPTUNE-PLUS: the programming

One of the innovating aspects of NEPTUNE-PLUS, is the possibility of being programmed without the use of graphic tools or programming languages.

It only needs the setting of the input state that causes output activation, in the truth table of the development software free supplied by Emmeci Elettronica.

It's possible to set the activation times of the outputs, both the over-boost duration and the working voltage duration (24Vcc).

The software allow to enable / disable other functions like the start/stop function.

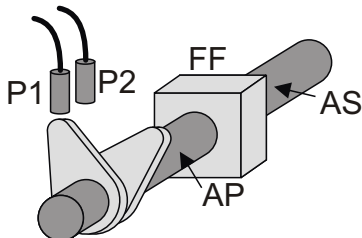
Another novelty of the NEPTUNE-PLUS are the auxiliary inputs:

- I7 and I8 have the same functions: "Disabling fragmentation" and "Test outputs". Are respectively associated with the OUT1 and OUT2 outputs.
- I9 have the functions of "Switching off outputs" and "Encoder input" and is associated at the same time with both outputs.

Examples of use:

Brake/clutch group driving

The brake-clutch is a useful function typically utilized to increase the performance in rotary motion transmission. In this example, in a machine there are 2 shafts, a main shaft AP with 2 cams and a secondary shaft AS; the main shaft rotates continuously, and the secondary shaft rotates according to the main one's phase. The brake/clutch group FF between the shafts transmit the motion from the main to the secondary, according to the phase detected on the cams by the proximity sensors P1 and P2.



The motion transmission must be fast and accurate as well as the braking phase, to avoid slippings and inertial motions. The NEPTUNE-PLUS can increase the performance of the brake/clutch group due to the over-boost function, and also can manage the logic function (brake active between 1st and 2nd cam or vice versa between 2nd and 1st cam).

Double command enable in gluing management

A packaging machine needs a double command to enable the glue application on the packages in transit. Usually the main command is given by a PLC that enables glue application after checking the package, while the second command is given by a pattern controller that manages the adhesive stretches; a third command is available for system test and it must activate the guns independently of previous commands.

Using a NEPTUNE-PLUS driver, it's possible to manage these commands for 2 guns, improve their performance with the over-boost function, and split the glue stretch in small dots to save glue.



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