

DIN RAIL CONTROLLER



Dear Customer

Thank you for choosing SCHUNK products.

We are pleased to provide you with this manual, which is intended to allow you to operate with maximum levels of safety and productivity.

Please read this technical document carefully.

SCHUNK focus is on our customers and their satisfaction. We are therefore available to provide any further essential information.

We wish you success in your work,
SCHUNK

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1. SAFETY

1.1 Symbols Used



This symbol can be found where possible dangers to people are described



This symbol can be found where possible damages to the product are described



This symbol can be found next to essential information about the product or its handling

1.2 Product Use:

The intended use for electronic controllers is to:

- Check and supply the impulse discharge current to control magnetization and demagnetization of electro-permanent chucks and modules.
 - Control the alarms.
 - Enable connection of the machine tool to the PLC.

1.3 Environment and Conditions

Working temperature: minimum +5 °C, maximum + 40 °C.

Maximum relative humidity: 50% at +40° (without condensation)

Components may be stored for a maximum of eight months.

After long storage periods, before installation and start-up, check the operation and general conditions of the device.

1.4 Safety



When using the device, always comply with the health and safety regulations by adopting the necessary PPE:

- use of gloves,
- respect of safety distances,
- minimum safety requirements for the use of work equipment.

The list above is not intended to be complete. The customer must determine what PPE is required for the specific process to be performed. All PPE must comply with the laws in force concerning safety on the workplace (in Italy, Legislative 81/2008, and subsequent modifications and integrations).

2. WARRANTY

The original configuration of the product should not be changed for any reason whatsoever. Improper use of the equipment for operations not intended by the manufacturer and not indicated in this manual may damage the product and injure workers.

The warranty term is of 12 (twelve) months from date of delivery except for other written commercial agreements on the order. For components not directly manufactured by SCHUNK, the manufacturer's warranty applies.

The warranty only covers the replacement of components and the repair of product failures causing incorrect operation.

The product, under warranty, must be shipped carriage paid to our plants. The warranty does not include technical service at the customer's premises or location where the equipment is installed. Equipment disassembly from the installation is not included.

Under no circumstances shall the warranty give the right to claim compensation for any direct or indirect injury or damage caused by our equipment to people, property or other machinery resulting from bad use, lack of maintenance or improper use. Repairs under warranty do not imply an extension of warranty or the start of a new period of warranty.

Warranty Exceptions

The warranty does not include any defect entirely or partially resulting from:

- Non-compliance with the instructions for inspection and maintenance, or improper use;
- Normal wear of the equipment;
- Defects resulting from changes or repairs not carried out by the manufacturer or authorised retailer;
- Breakdowns caused by incorrect use, assembling and disassembling;
- Damage or injury caused by use of non-original spare parts;

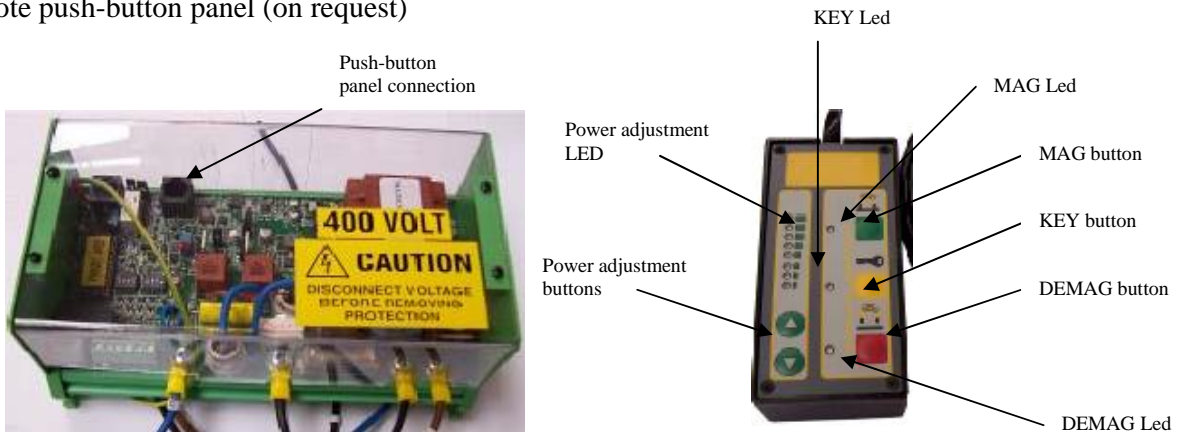
The warranty automatically becomes null and void:

- _ In the event of non-payment or other breaches provided for by contract;
- _ If the serial number is illegible;
- _ If the equipment is poorly maintained.

3. COMPONENTS OF SUPPLY

The supply consists of:

- _ Controller
- _ Remote push-button panel (on request)




4. TECHNICAL DATA

Power supply voltage: 200 – 230 – 400 – 460 (Vac) as requested
 Operation frequency: 50 Hz ÷ 60 Hz as requested

5. ASSEMBLY AND INSTALLATION

5.1 Receipt of Material

 When the product is delivered, check for damage and make sure it complies with the requested criteria.

If the material received does not match your order, immediately contact your supplier. If the product is stored, before it is put into operation, check that the temperature and humidity of the storehouse comply with requirements outlined in Chapter 4 of IEC EN60204-1.

5.2 Installation



Remove the controller from its packaging, use the DIN rail to fix it onto the machine or in electrical panels not supplied by SCHUNK

Remember that the machine should be turned off during installation.

5.3 Electrical Connections

The standard power supply is single-phase 400 V 50/60 Hz. A different power supply must be specified when placing the order.

Check if the power line voltage corresponds to the rated voltage specified on the device plate.



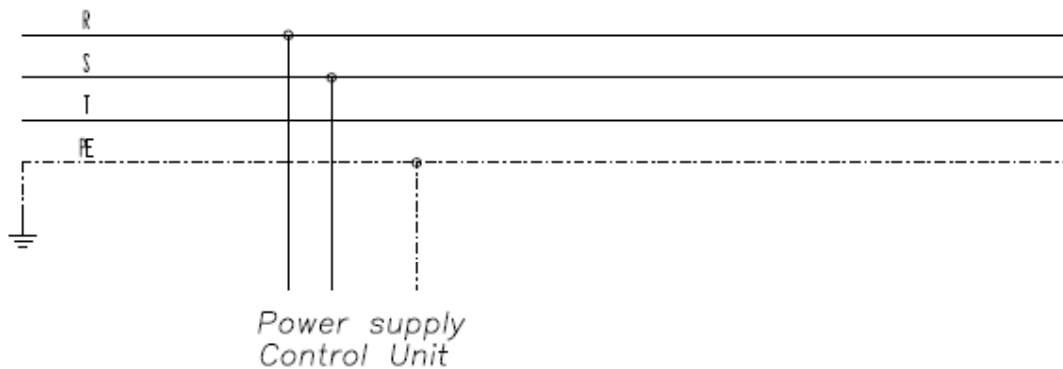
All electrical connections must be made only by skilled and trained personnel. All mandatory laws in force in the country where the device is installed must be complied with.

Warning:

3. Before installing the device, visually inspect the wires for any possible breakage, cut or abrasion. Connect the controller downstream of the protection device installed by the user.
4. Always connect the earth conductor of the power cable in order to prevent electric shocks and reduce disturbance. The user is responsible for the earthing to be efficient and in compliance with the mandatory laws.

Connecting the Controller to the Power Supply.

The controller is powered by a single-phase current. The prearranged power cable should be connected to two of the three available phases. The green/yellow conductor should be earthed.



Overcurrent protection, power supply cutout device and automatic disconnecter

The user must install onto the power circuit the necessary devices (magnetothermal and differential protection circuit breakers), in compliance with the mandatory laws in force in the country where the device has been installed, in order to protect the device itself, its equipment and the personnel.

The user should evaluate the rated current of the protection devices on the basis of the capacity of leads to be protected and of the electric characteristics of loads. However, we recommend:

- Choosing a value not lower than 32 A;
- Checking the efficiency of the earthing circuit.

Protection from Electric Contacts

Controllers ensure that users are not subject to electric shocks deriving from direct contact.

Only trained and skilled personnel are allowed to open the enclosures and replace the protections. If containers are opened without prior disconnection from the power line using the cutout device, the operator runs the risk of electric shocks.

Electrical Board Protections

The logic components of the controller are protected by a 500 mA fuse

6. OPERATION AND FUNCTIONS



6.1 First Use

- Fix the controller on a DIN rail or in a position suitable for use
- Connect the remote push-button panel to the controller as shown in the wiring diagram
- Connect the controller to the magnetic chuck
- Supply voltage to the controller
- Check that the DEMAG and KEY Leds on the push-button panel are lit
- Place a piece on the chuck
- Simultaneously press the MAG and KEY buttons to perform a magnetization test
- The MAG Led is lit, the DEMAG Led is off, and the KEY Led remains lit
- Check that the piece on the chuck is magnetized
- Simultaneously press the DEMAG and KEY buttons to perform a demagnetization.
- The MAG Led is off, the DEMAG Led is lit, and the KEY Led remains lit

Contact the assistance service if the expected results are not obtained with the above-described operations.

6.2 Usual functions

MAGNETIZATION

Simultaneously press the MAG and KEY buttons

The MAG Led is lit, the DEMAG Led is off, and the KEY Led remains lit

DEMAGNETIZATION

Simultaneously press the DEMAG and KEY buttons.

The MAG Led is off, the DEMAG Led is lit, and the KEY Led remains lit

7. TROUBLESHOOTING

Trouble detected	Possible Cause	Suggested Operation
The piece on the product (chuck or module) moves.	The product has not performed the magnetization operation correctly. The selected power is not enough.	Check connections. If the push-button panel is equipped with power adjustment, increase power. <i>Repeat the magnetization operation after performing the above-mentioned operations.</i>
The line differential circuit breaker trips.	There is a leakage to earth.	Disconnect the earth cable and check for any leakage to earth.
With power supply of the controller on, LEDs remain off.	The power cable is not connected.	Turn off the controller and check connections
Demagnetisation is not performed correctly.	Interferences from outside disturb the correct operation of the controller.	Insert a power filter upstream to the controller.

For any queries or further information, please contact our technical assistance service.

8. PRODUCT CARE AND MAINTENANCE

Maintenance should be performed by trained and skilled staff only. Maintenance personnel must carefully read this manual. Good and constant maintenance is a decisive factor for best performance in optimal operating conditions and for an increased duration of operation over time.

It is recommended to periodically:

Check the condition of the power cables, and eliminate any broken or crushed parts as well as any other fault. Do not join cables. Avoid joining the earth cable and the remote push-button panel cable to the controller using electric tape.

Only skilled and trained personnel with proper equipment are allowed to replace any defective electric or electromechanical component. The warranty becomes automatically null and void if any of the components are replaced by the user.

The replaced components **must** have the same electrical and performance properties as the original ones.

After maintenance, place the protections back before reconnecting the controller to the power supply and using it again.

9. ASSEMBLY DRAWING

This product does not need an assembly drawing.

10. SUPPLY COMPONENTS

- _ Plastic case
- _ Logic Card
- _ Cables

11. ACCESSORIES

- _ Plastic case
- _ Complete remote push-button panel

12. DECLARATION OF CONFORMITY

Enclosed

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14. CONTATTI – CONTACTS – KONTAKTE – CONTACTS

			
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