Instruction Bulletin

Sepam™ Series 20 & 40 Relays
Quick Start Guide

Retain for future use.

Introduction

Sepam™ Series 20 and Series 40 protective relays are designed for protection applications on medium-voltage distribution networks.

Sepam Series 20 Relays

Sepam Series 20 relays are designed for simple applications and include:

- 10 Logic Inputs
- Eight Relay Outputs
- One Communication Port
- Eight Temperature Sensor Inputs

Sepam Series 40 Relays

Sepam Series 40 relays are designed for demanding applications and include:

- 10 Logic Inputs
- Eight Relay Outputs
- One Logic Equation Editor
- One Communication Port
- 16 Temperature Sensor Inputs

Storage

Store the Sepam relay in its original packaging in a closed, sheltered location. Check the storage environment annually for the following recommended conditions:

- Ambient temperature of -13° to +160° F (or -25° to +70° C)
- Non-condensing humidity ≤ 90%

Commissioning

Once installed, energize the Sepam relay as quickly as possible, especially in damp locations (condensing humidity ≥ 90%).

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, BURN OR ARC FLASH

- Turn off power supplying the relay and equipment in which it is installed before working on it.
- Always use a proprely rated voltage-sensing device to confim that power is off.
- Replace all devices, doors, and barriers/covers before energizing this equipment.

Failure to follow these instructions will result in death or serious injury.

For more information, please refer to:

- Sepam Series 20 User's Manual - 63203-216-208C1
- Sepam Series 40 User's Manual - 63203-216-219B1

Identification

Each Sepam relay comes in a single package that contains the base unit and its connector. Optional accessories, such as modules, the current or voltage input connector, or cables come in separate packages.

To identify a Sepam relay, check the two labels on the right side panel of the base unit that describe the firmware and hardware features of the product.

Figure 1: Hardware Equipment Label

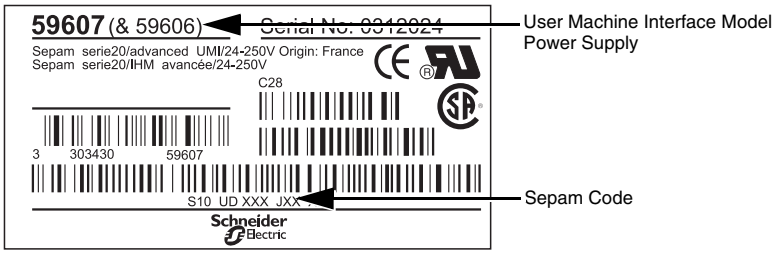
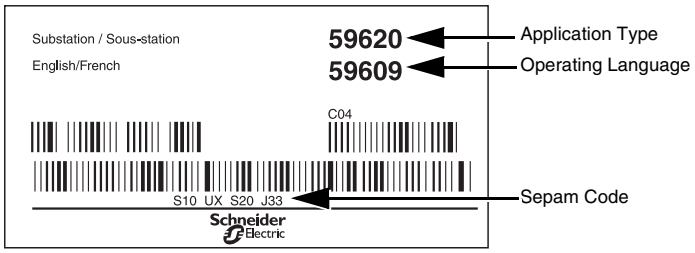


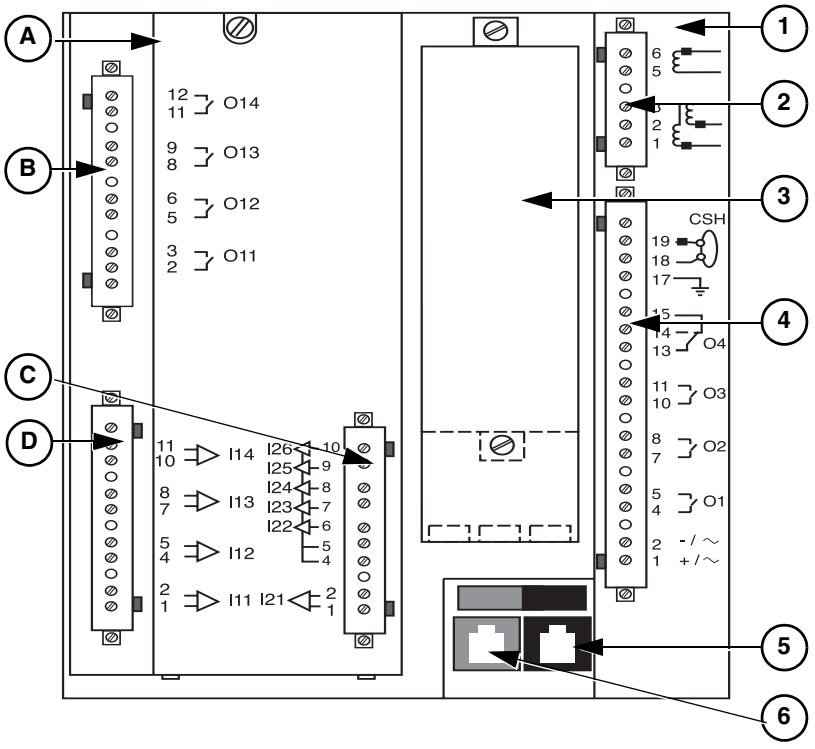
Figure 2: Firmware Equipment Label



Components

A. Optional Input/Output Modules (MES108 or MES114)
B. MES108 or MES114 Module Connectors
C. MES114 Module Connector
D. MES108 or MES114 Module Connectors

1. Base Unit
2. Input Voltage Connector (Series 40 only): Screw-Type Connector (CCA626), or Ring Lug Connector (CCA627)
3. 1/5 A CT Input Current Connector (CCA630), or LPCT Input Current Connector (CCA670), or Voltage Input Connector (CCT640, Series 20 only)
4. Base Unit Connector:
   - — Power Supply
   - — Output Relay
   - — Input CSH30 / 120 / 200 or ACE990
   - — Screw-Type Connector (CCA620), or Ring Lug Connector (CCA622)
5. Remote Inter-Module Link Connection (black)
6. Communication Module Link Connection (green)



Connections

The Sepam™ relay connections are made to the removable, screw-lockable connectors located on the back of the relay.

Wiring of Screw Connectors without Fittings

Please note these parameters for screw connectors without fittings:

- Maximum one wire cross-section of ≥ AWG 24–12 (0.2–2.5 mm²)
- Maximum two wires with cross-section of ≥ AWG 24–18 (0.2–1 mm)
- Stripped wire length: 0.315–0.394 in (8–10 mm)

Wiring of Screw Connectors with Fittings

Please note these parameters for screw connectors with fittings:

- Telemecanique fittings: DZ5-CE015D for 1 wire AWG 16 (1.5 mm²), DZ5-CE025D for 1 wire AWG 12 (2.5 mm²), or Z5-DE010D for 2 wires 2 x AWG 18 (1 mm²)
- Wire length: 0.323 in (8.2 mm)
- Stripped wire length: 0.315 in (8 mm)

Wiring of CCA622 Connectors

Please note these parameters for CCA622 connectors:

- Ring lug or spade lug: 1/4 in (6.35 mm)
- Maximum wire cross-section of ≥ AWG 24–12 (0.2–2.5 mm²)
- Stripped wire length: 0.236 in (6 mm)
- Torque 6–9 lb-in (0.7–1 Nm)
- Using a suitable crimping tool, crimp lugs onto wires
- Insert no more than 2 ring lugs or spade lugs under washers

Installation of the Optional MES108 or MES114 Modules

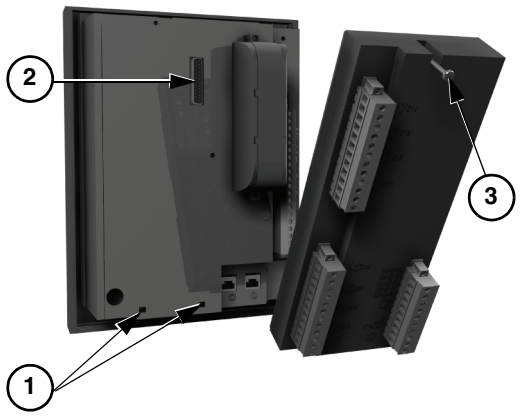
To install the MES114 input/output module, position the MES114 module as pictured in Figure 3 (below) and complete the following steps:

1. Insert the two pins on the bottom of the MES114 module into the corresponding slots (1) on the Sepam base unit.
2. Press the top of the MES114 module against the Sepam base unit

   NOTE: Confirm the MES114 module is aligned with the connector (2) on the Sepam base unit.
3. Tighten the mounting screw (3).

See *MES114 Input/Output Module Installation Sheet* (63230-216-246) for more information.

Figure 3: Installing MES108 or MES114 Modules

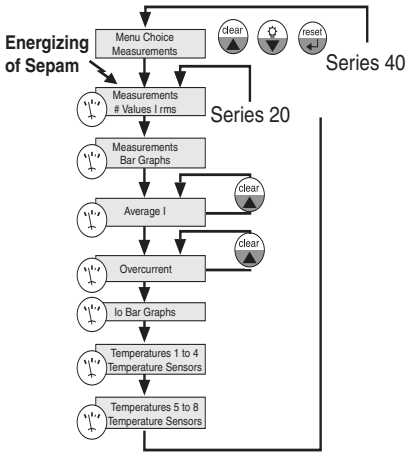


Operation

After tripping on a fault (i.e. phase overcurrent):

- "Trip" LED is lit
- "I>51" LED is lit
- The graphic interface (optional advanced UMI) displays:
  - "Phase Fault" message
  - Tripping current
  - Date and time of fault occurrence
- Pressing the ⚠ button displays the 16 most recent unacknowledged alarms
- Pressing the clear button clears the alarm message
- Pressing the reset button resets the protection relay

Access to Measurements/Parameters



The measurements and parameters can be accessed using the metering, diagnosis, status and protection buttons. They are arranged in a series of screens as shown in the diagram to the left.

The data are split up by category into 4 loops, associated with the following 4 buttons:

- Measurements
- Switchgear Diagnosis
- General Settings
- Protection Settings

NOTE: When you press a button, the system moves on to the next screen in the loop. When a screen includes more than 4 lines, you can navigate the screen using the cursor buttons (clear,).

Protection and Parameter Settings Modes

There are three usage levels:

- Operator
  - Used to access all the screens in read mode
  - Does not require any passwords
- Protection Setting
  - Requires the entry of the first password ()
  - Allows protection setting ()
- Parameter Setting
  - Requires the entry of the second password ()
  - Allows modification of the general settings as well ()

  NOTE: The parameter setting level is used when changing the 4-digit password.

Expert User Machine Interface

An expert user machine interface (UMI) is available to complement the Standard and Advanced UMI. The expert UMI is displayed on a PC equipped with the SFT2841 software (operating a Windows OS ≥ version 95 or NT) and connected to the RS 232 link on the front panel of a Sepam™ relay.

Use of Passwords

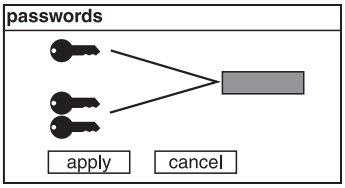
Each Sepam™ relay has two 4-digit passwords:

- To modify protection settings
- To modify protection settings and all general settings

Entry of Passwords

Press the button to display the following screen:

Figure 4: Password Entry Screen

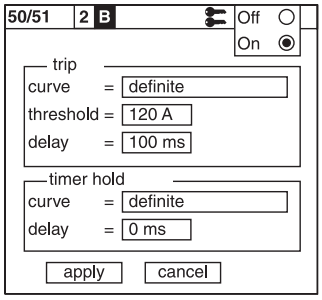


NOTE: The two factory-set passwords are “0000”.

1. Press the button to position the cursor on the first digit.
2. Scroll the digits using the cursor buttons (,) then confirm to go on to the next digit by pressing the button.
3. After entering your password, press the button to position the cursor on the “Apply“ box. Press the button again to confirm.

   NOTE: When the Sepam relay is in protection setting mode, one key appears at the top of the display. When the Sepam is in parameter setting mode, two keys appear at the top of the display.

Figure 5: Parameter Setting Screen



Access to the protection setting or parameter setting modes is disabled:

- By pressing the button
- Automatically, if no buttons are pressed for more than 5 minutes

Modification of Passwords

Only the parameter setting qualification level ( ) or the SFT 2841 allows modification of the passwords. Use the general settings screen ( ) to change passwords.

Loss of Passwords

If you have lost a password and cannot remember it, please contact Schneider Electric Customer Service (1-888-Square-D).

Entry of Parameter or Setting
(e.g. Phase Overcurrent Protection)

Follow these steps:

1. Enter password.
2. Access the corresponding screen by pressing the reset button.
3. Move cursor by pressing the button to reach the desired box (example: curve).
4. Press the reset button to confirm the selection, then select the type of curve by pressing the clear or button and confirm by pressing the reset button.
5. Press the button to reach the “Apply“ option.
6. Press the reset button to apply the settings.

Entry of Numerical Values
(e.g. Current Threshold Value)

Follow these steps:

1. Position the cursor on the required box using the clear, buttons and confirm the choice by pressing the reset button.
2. Select the first digit and set the value (0–9) using the clear, buttons.
3. Press the reset button to confirm the choice and go on to the next digit.

   NOTE: The values are entered with 3 significant digits and a point. The unit (e.g. A or kA) is chosen using the last digit.
4. Press the reset button to confirm the entry and the key to access the next field.
5. The values entered will be effective after selecting the “Apply” option at the bottom of the screen and pressing the reset button.

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