

SCREWLINE SP Pump with Phase Watchdog

Introduction

To avoid damage due to wrong wiring of SCREWLINE SP by the customer, we offer three new SCREWLINE SP pump versions which are equipped with a phase watchdog. The phase watchdog makes sure that in the case of wrong wiring connection, the pump will not start. This protection prevents the risk of the pump damage due to wrong direction of rotation.

You must follow the instructions in SCREWLINE SP 250 Operating Instructions (Publication number - GA02412) and SCREWLINE SP 630, SP 630 F Operating Instructions (Publication number - GA02411) for corrective actions on pump wiring.

The SCREWLINE SP pumps equipped with a phase watchdog cannot operate with a VFD. If you want to use an VFD, disassemble the phase watchdog from the systems and install the VFD.

Table 1 Part number of SCREWLINE SP pumps

Standard P/N	Description	New P/N	Description
117008	SP630 60Hz manGB	117008V02	SP630 60Hz manGB, Phase watchdog
117114	SP630F 60Hz manGB, Purge	117114V02	SP630 60Hz manGB, Purge, Phase watchdog
115001	SP250 manGB	115001V02	SP250 manGB, Phase watchdog

Safety precautions



WARNING: ELECTRICAL SAFETY

Risk of injury. The electrical connection must only be provided by a trained person. You must follow the national regulations in the country of use (like EN 50110-1 for Europe).



WARNING: DANGEROUS VOLTAGE

Risk of electric shock. When touching parts at high electric voltages, there is the risk of suffering severe injuries by an electric shock. Covers marked with this symbol must only be opened by trained electricians after the equipment is de-energised (lockout/tagout).

Introduction



WARNING: DAMAGE DUE TO HUMIDITY

Risk of injury and damage to equipment. Make sure that the connecting lines are positioned to prevent damage. Protect the lines against humidity and contact with water. Avoid thermally stressing the lines due to wrong layout.



WARNING: DANGEROUS VOLTAGE

Risk of injury and damage to equipment. Always operate the pump with a properly connected protective earth conductor.

The pump must be integrated within the system controller to avoid automatic restart of the pump after any emergency shutdown or shut down due to an overloaded motor. The pump must restart manually, after the fault cause is removed.

Disconnect the pump from all sources of power (lockout/tagout) before you do maintenance or servicing work.

Connect the phase watchdog

Figure 1. Mounting location of Phase watchdog - SP250

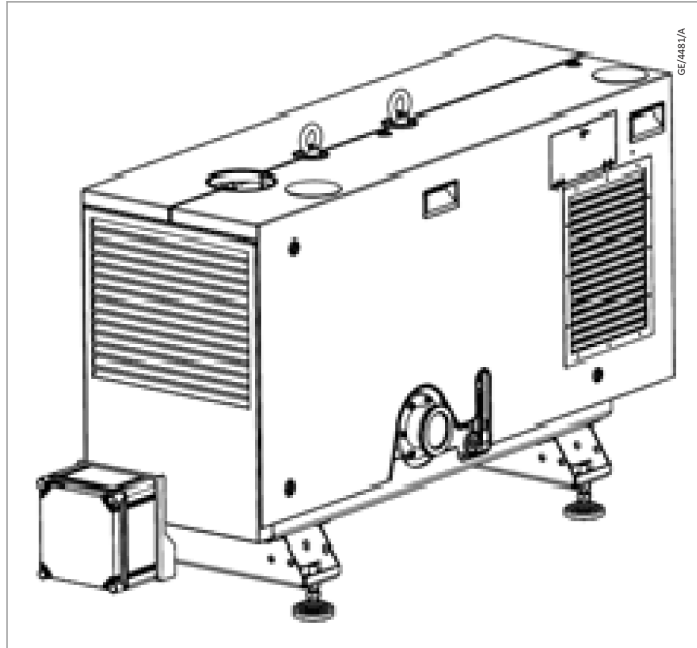
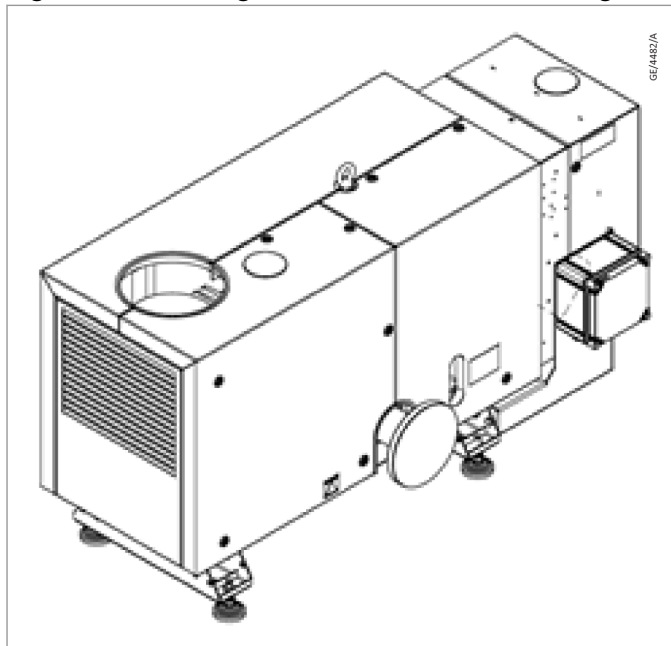


Figure 2. Mounting location of Phase watchdog - SP630



Connect the phase watchdog

Phase watchdog connection for SP250



WARNING: VOLTAGE OVERLOAD

Risk of damage to equipment. Operating the phase watchdog at 200 V will overload its cables. You must operate the equipment only at 460 V.

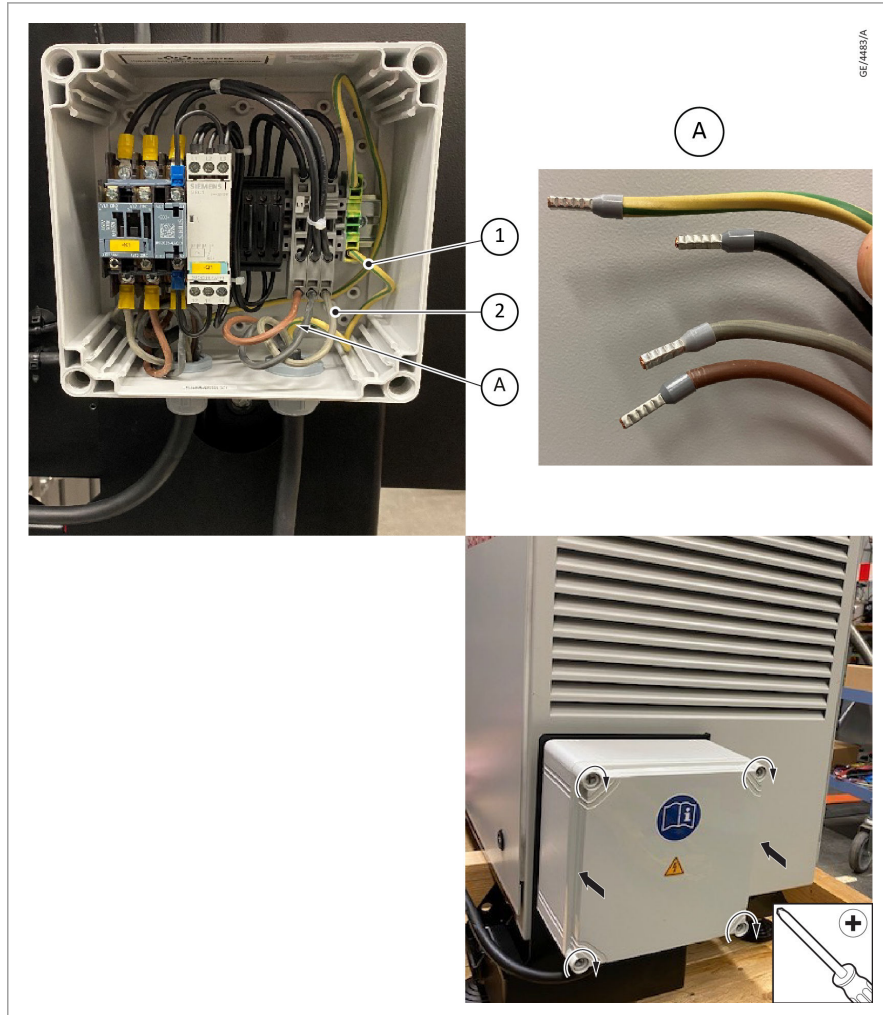
To connect the phase watchdog for SP250 pump, do the steps that follow:

1. Refer to [Table: Power cable connection](#) and prepare the cables for connection.

Connect the phase watchdog

2. Loosen the screws to open the cover of the phase watchdog.
3. Connect the power cable and the PE conductor as shown in [Figure: Electrical connection watchdog - SP250](#).
4. Fit the cover with the screws.

Figure 3. Electrical connection watchdog - SP250



1. PE conductor

2. Power cable

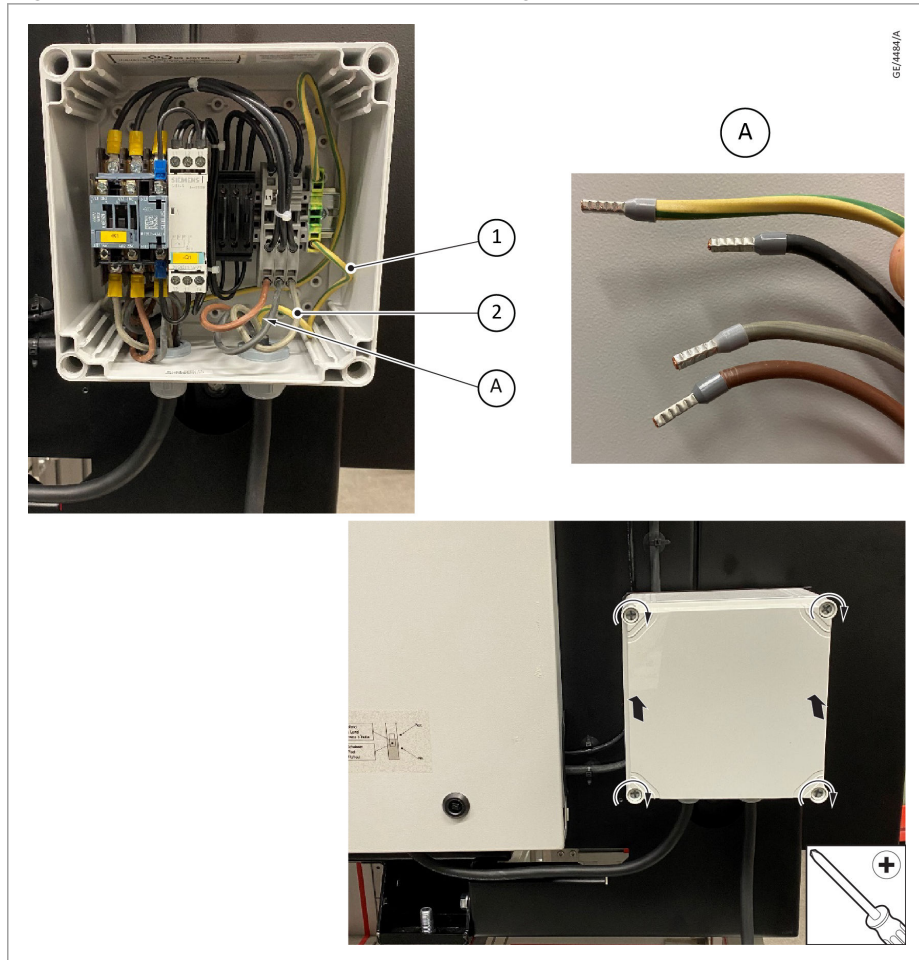
Phase watchdog connection for SP630

To connect the phase watchdog for SP250 pump, do the steps that follow:

1. Refer to [Table: Power cable connection](#) and prepare the cables for connection.
2. Loosen the screws to open the cover of the phase watchdog.
3. Connect the power cable and the PE conductor as shown in [Figure: Electrical connection watchdog - SP630](#).
4. Fit the cover with the screws.

Connect the phase watchdog

Figure 4. Electrical connection watchdog - SP630



1. PE conductor

2. Power cable

Table 2 Power cable connection

Stripping length (mm)	12
Conductor cross section maximum (AWG)	10
Conductor cross section maximum (mm ²)	6