



TME
Transit Mixer
Electronic

Technical
Information



GENERAL

The **T**ransit **M**ixer **E**lectronic Unit - **TME** for short - constitutes a ready-to-install operating unit for transit mixers and is available as a remote (external) and cabin (cab-mounted) operation unit.

The TME Remote Station is used as the main unit.

Both operation units are designed as build-in modules and completely encapsulated. The electrical lines are produced in an operationally reliable way via mechanically locked 16pin AMP plug connector system for mobile use.

The TME Cabin Station is an additional device and can be operated only in conjunction with the external operating unit (TME Remote Station).

FEATURES

- 12V_{DC} or 24V_{DC} supply voltage.
- Reverse polarity and short circuit protected.
- Moisture and corrosion resistant. Protection class: IP65
- Withstands vibration and shocks.

ORDERING INFORMATION

TME Remote Station	516315
TME Cabin Station	516316
Connector (Accessory)	512262

TECHNICAL DATA

Supply voltage: 12V_{DC} or 24V_{DC}

Max. current load: 2 A

Mixer drum preselection: 3 switch stages for charge and mixing the concrete.

1 Zero position.

7 switch stages for discharge the concrete.

The power supply voltage must only be connected to the pins defined in a system connection diagram. Otherwise damage to the controller is possible.

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TME REMOTE STATION

The TME Remote Station is an operating unit for the drum drive in self-propelled concrete mixers.



This operating unit is a built-in module with a 16pin AMP plug connector system with interlock. The unit is completely potted and encapsulated to prevent moisture. The module should be accommodated in the operating box for the diesel adjustment, and needs the fused, switched battery voltage, the PPU signal and the line connection to the proportional valves (optional: external stop and disable: loss of feedback). The maximum current consumption is around 2 amperes. The unit is provided both for 12V_{DC} and for 24V_{DC} systems.

In the case of a 24V_{DC} system voltage, the combined return lines from the proportional valves are connected to PIN 6, in the case of a 12V_{DC} system voltage, these lines are connected to PIN 5. Of course, appropriate 12V_{DC} or 24V_{DC} proportional valves must be used. The connections can be seen in the connection diagram.

**MIXER DRUM
 PRE-SELECTION**

The direction and speed of rotation of the mixer drum are pre-selected in various steps.

- Three** switch stages for collecting and mixing the concrete,
- One** zero position,
- Seven** switch stages for emptying the concrete.

The symbols relating to this are:

-  = charge, mixing and transport mode,
-  = discharge at a different speed.
-  = zero position switch (remote station)
-  = changeover function (cab-mounted station)

The large yellow pushbutton  under the knob sets the pre-selected direction and speed to zero and, if operated repeatedly, returns to the pre-selected speed. A yellow light-emitting diode indicates this "memory/stop mode" by flashing. This LED is located on the scale at the "0" position, between collecting and emptying. This "memory/stop" function can also be controlled externally. For this purpose, battery (+) must be wired to the corresponding PIN. This has been conceived as a remotely controlled stop function. In addition, when this external stop function is activated, the LED flashes as long as this input is active.

The switch shows on the LED when the unit is in the "0" position. The association between switch position and drum speed in revolutions per minute is as follows:

Discharge 14-10-8-6-4-2-1-0-2-10-14 Charge.

2 revolutions collecting is provided for transport mode.

SPEED SENSOR (PPU)

A speed sensor (PPU) monitors the rotational speed of the drum by the pulses being converted in the remote station and compared with the desired value. The current to the proportional valves is changed until the desired speed is established, but only to the extent that the power and speed provided by the diesel engine are sufficient.

Should there be no PPU, a stepped current is generated for the proportional valves. The rotational speed which is then established depends on the tolerance of the valves, springs, diesel rotational speed and loading. Use with a PPU is standard. Without a PPU, this is an emergency function (limp home).

Additional logic carries out a dynamic check on the presence of PPU signals when the PPU is connected and uses them to drive a shutdown function, which puts the unit into the stop mode. In the case of this fault, the pulse pick-up (PPU) must be disconnected, and the emergency function is available (this option can be deactivated by means of an external link on the plug).

TME CABIN STATION

The TME Cabin Station permits drum operation from the driver's cab. In the connection diagram reference is already made to the possible connection of an operating station for the driver's cab.



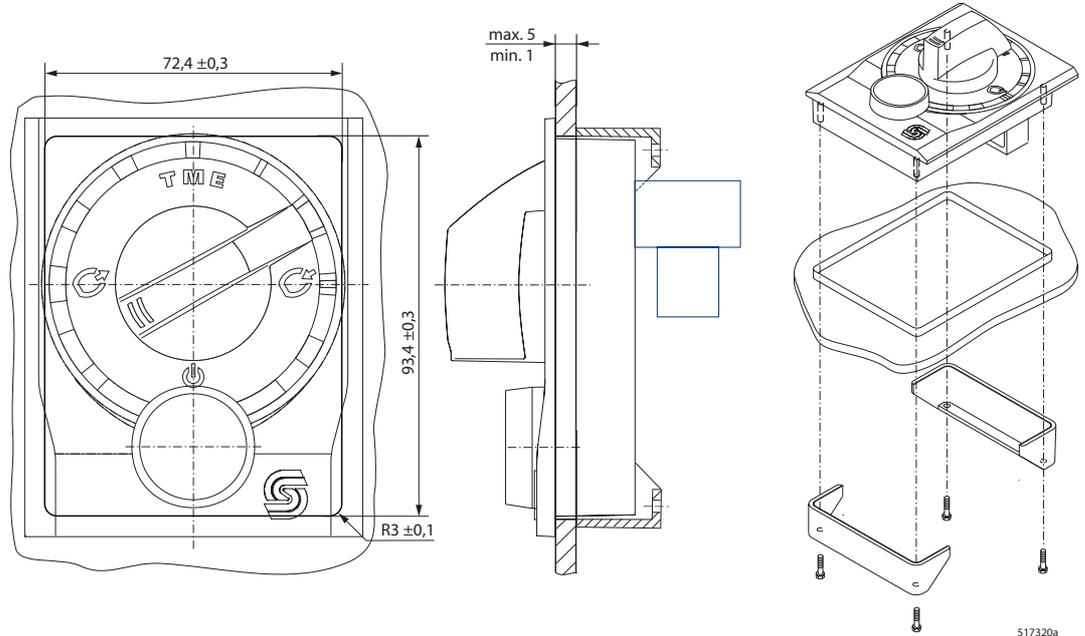
The preselection of the desired value is identical to the remote station.

However, here the yellow pushbutton  carries out the changeover function between "cabin" and "remote". In principle, a changeover is made when both units are in the "0" position. The yellow LED lights up on that unit which is active. When changing over from cabin to remote (external), the external station is put into the stop mode. In order to place this function surely, repeated pressing is blocked for 2-3 sec. The drum comes to a standstill, and the operator can acknowledge the desired direction and speed of rotation by pressing the yellow pushbutton on the remote station. This avoids an erroneous function being activated if the preselect switch is not in the "0" position. After external operation has been completed, the predefinition of a desired value can be performed from the cabin again. A memory/stop function which is present is reset when a changeover is made.

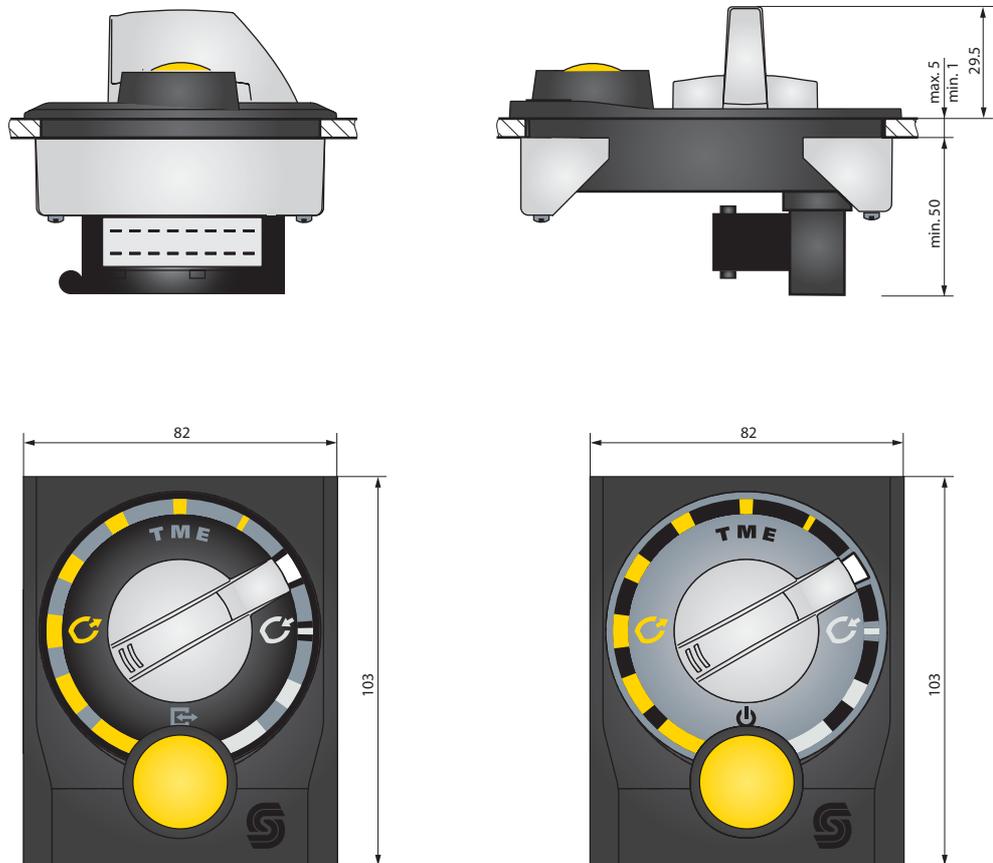
The "cabin station" is also a built-in module in the same plastic housing as the "remote station". It is envisaged for installation into the operating panel in the driver's cab or in a

INSTALLATION SPACE

Max. allowed torque for the screws is 1 Nm.

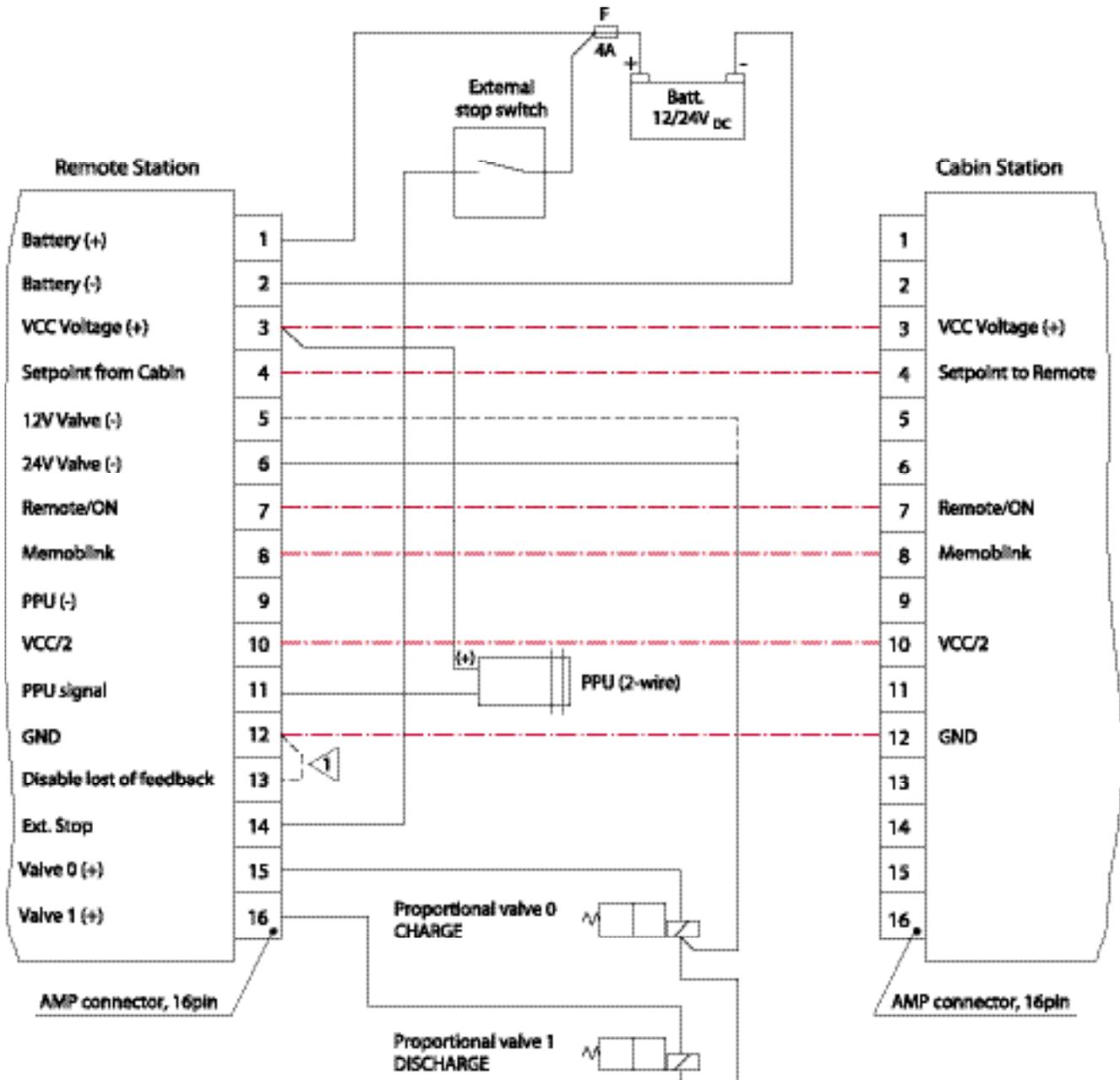


TME STATION COMPLETE



CONNECTION DIAGRAM

1 Option: Safety function can be Invalldate by connecting.



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ENVIRONMENTAL TESTS

EMC-Standards, MCES015

Immunity	Test principle	Severity level
Radiation (stripline) Radiation (antenna)	ISO 11452-5: 12.1995 ISO 11452-2: 12.1995	90V/m (1 MHz - 200 MHz) 93V/m (200 MHz - 1000MHz)
ESD	ISO TR 10605: 10.1995	15 kV / 8 kV
Impulsive disturbances applied to supply leads	DIN 40839 part 1: 10.1992	pulse 1: -200V pulse 2: +100V pulse 3a: -200V pulse 3b: +200V pulse 4: Us -16 / -7V pulse 5: +200V
Impulsive disturbances applied to transmitter and signal leads	DIN 40839 part 3: 12.1991	pulse 1: -60V pulse 2: +30V pulse 3a: -80V pulse 3b: +80V

Emission	Test principle	Limit value met
(Radio interference)		
Electrical disturbance field strength	Directive 95/54/EEC	EUB/narrowband EUB/broadband
Disturbance voltage	DIN 57879 part 3: 04.1981	Degree of suppression 5 (0,15 MHz - 30 MHz) Degree of suppression 5 (87,5 MHz - 108 MHz)

Mechanical Standards, MCES015

Mechanical vibration	Test principle	Severity level
Random	DIN IEC 68-2-34	2 h in each of 3 orthogonal axes at 5.58 g 50 Hz - 2000 Hz
Mechanical Shock	DIN IEC 68-2-27	3 shocks in each direction of the three major orthogonal axes 50 g throughout sweep with 11 ms

Temperature test	Test principle	Severity level
Temperature shock:	DIN IEC 68-2-38	+70°C max. temperature -40°C min. temperature 1 h dwell time 24 h test cycle time

Salt test	Test principle	Severity level
Salt spray:	DIN IEC 68-2-52	5 % NaCl at 35°C / 72 h



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Sauer-Danfoss (US) Company
2800 East 13th Street
Ames, IA 50010, USA
Phone: +1 515 239-6000, Fax: +1 515 239-6618

Sauer-Danfoss (Neumünster) GmbH & Co. OHG
Postfach 2460, D-24531 Neumünster
Krokamp 35, D-24539 Neumünster, Germany
Phone: +49 4321 871-0, Fax: +49 4321 871-284

Sauer-Danfoss (Nordborg) A/S
DK-6430 Nordborg, Denmark
Phone: +45 7488-4444, Fax: +45 7488-4400

Sauer-Danfoss (US) Company
3500 Annapolis Lane North
Minneapolis, MN 55447, USA
Phone: +1 763 509-2084, Fax: +1 763 559-0108

www.sauer-danfoss.com