SAUER SUNDSTRAND

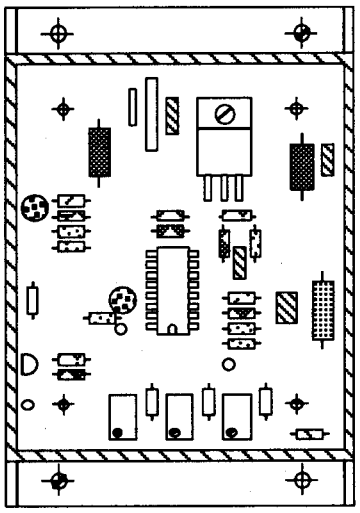
MCE127A....
Proportional Amplifier

BLN-96-9401-2E **Issued:** October 1999

DESCRIPTION

The SAUER-SUNDSTRAND Proportional Aplifier MCE127A.... is used for powering fandrives equipped with proportional actuators.

The current to the valve depends on a measured temperature.



FEATURES

- Current source
- Fail Save Cut-Off when sensor leads are broken
- Reverse polarity and short circuit protected
- Withstands vibration and shock

ORDERING INFORMATION

Device Name	Supply voltage	Id. No.
MCE127A....	$24V_{DC}$	504 051

TECHNICAL DATA

SUPPLY VOLTAGE
$18V_{DC}$ to $35V_{DC}$, reverse polarity protected

POWER LOAD
MIN: app. 10mA
MAX: 1,6A

I_{MIN} TEMPERATURE
adjustable 50°C - 90°C

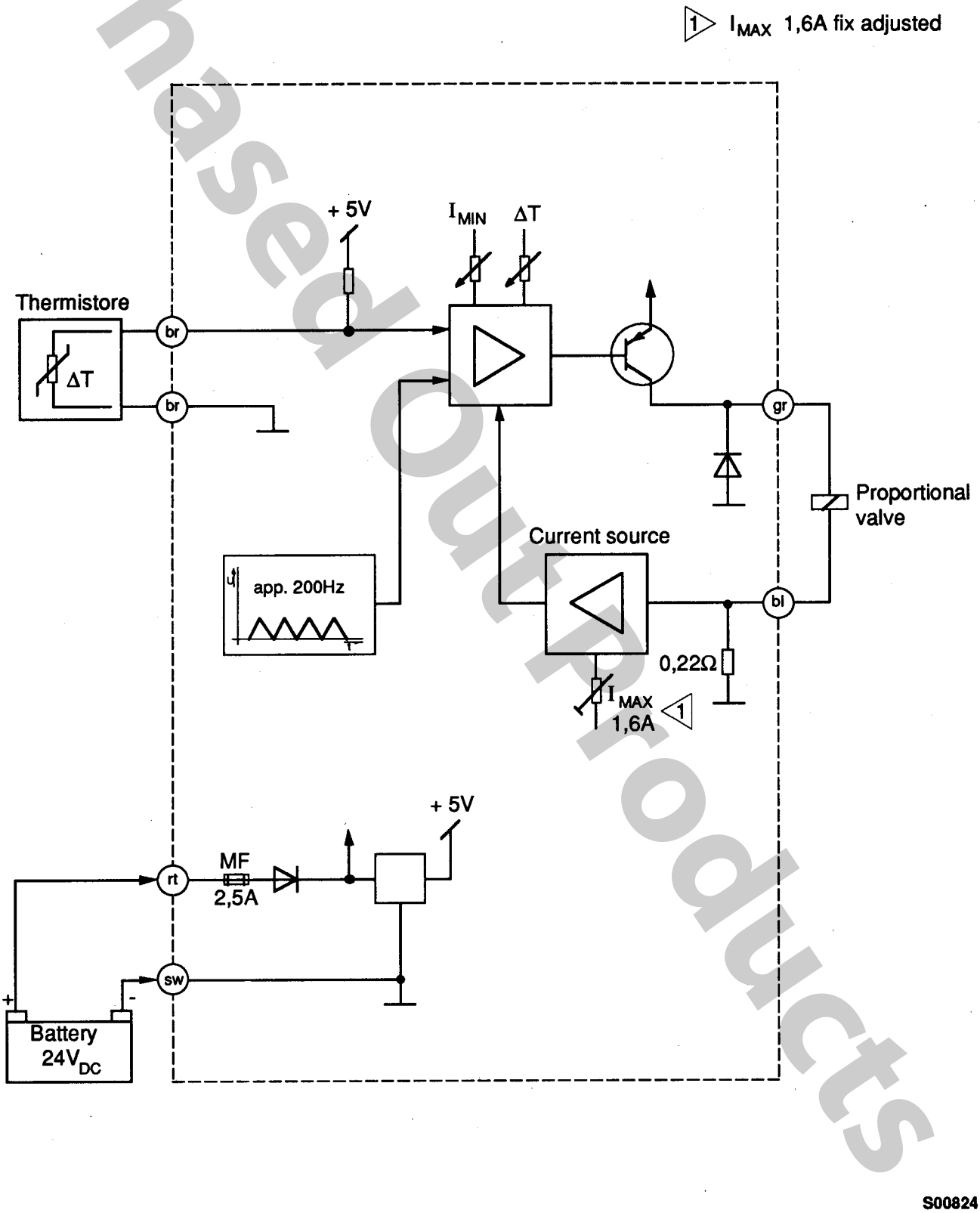
TEMPERATURE MODULATION
adjustable ΔT_{MAX} at 50°C app. 9°C
ΔT_{MIN} at 90°C app. 5°C

I_{MAX} ADJUSTED TO 1,6A
protected by multifuse

SWITCHING FREQUENCY
app. 200Hz

POWER OUTPUT
Current source
Temperature compensated

BLOCK DIAGRAM

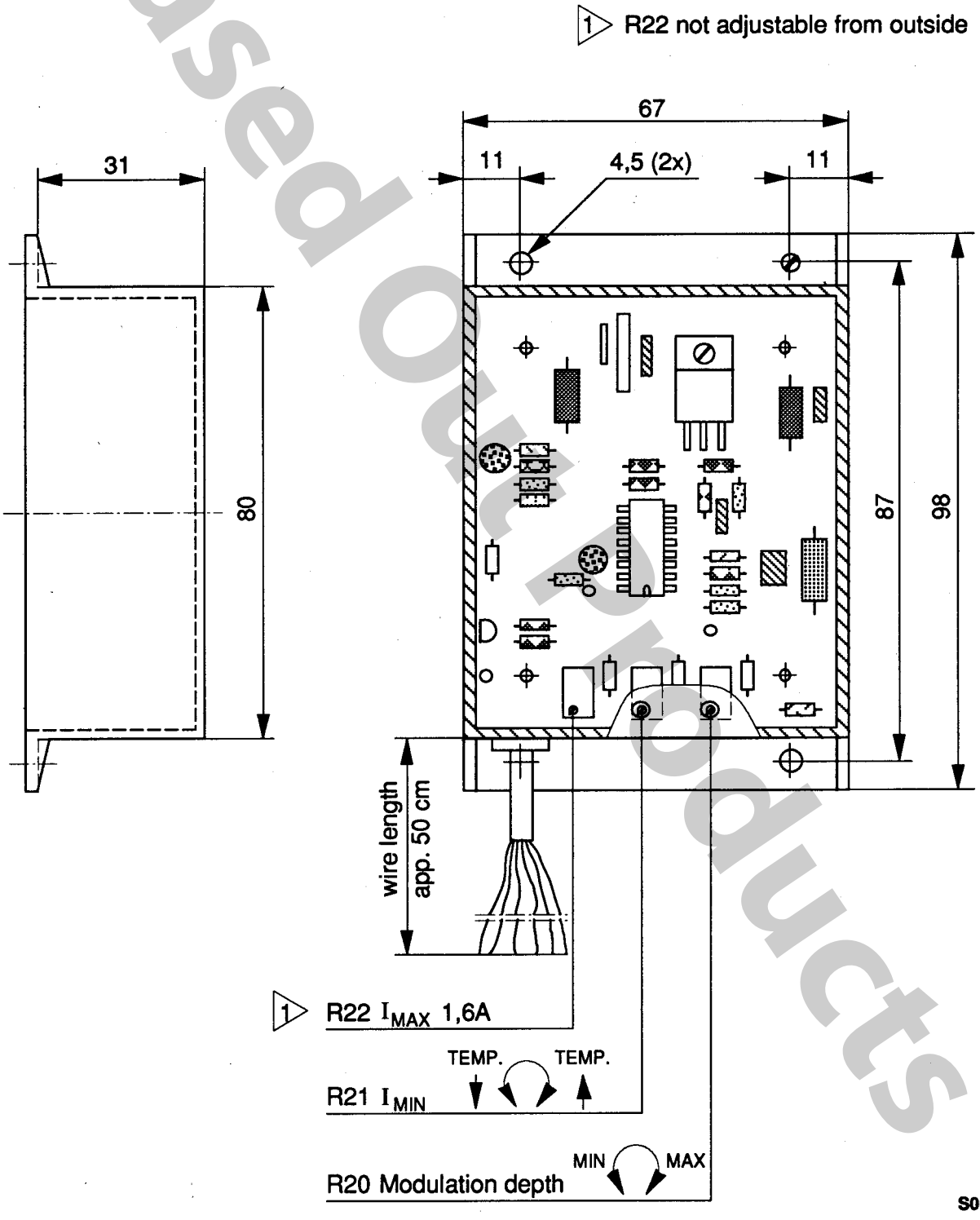


THEORY OF OPERATION

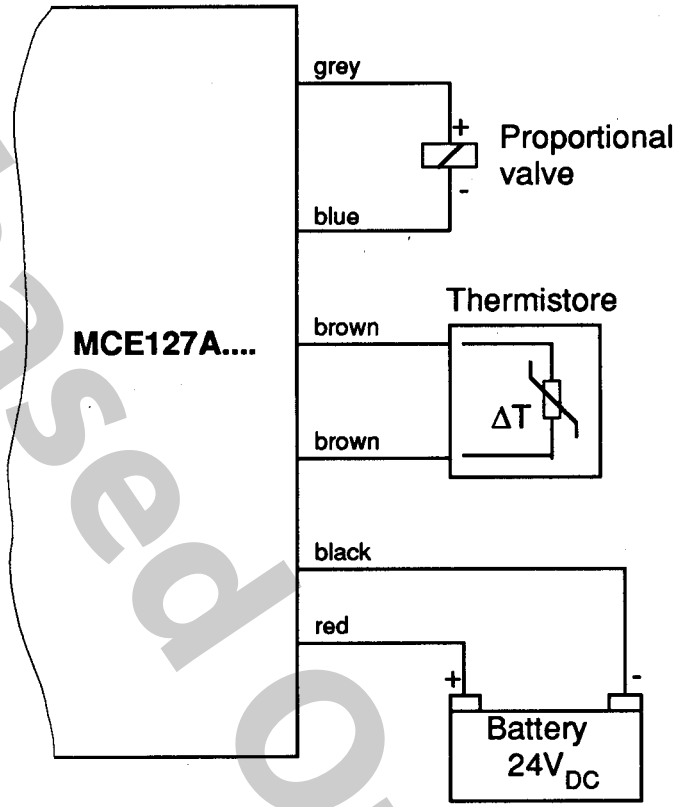
The Proportional Amplifier MCE127A... produces a current to a proportional value to a measured temperature (air or water). The temperature is measured by a thermistore which reduces it´s resistance with raising temperature.

The outut current is reduced with raising temperature and increased with falling temperature. The current is limited to 1.6A and is cut off to 0A when a sensor lead is broken.

DIMENSIONS



CONNECTION DIAGRAM



ADJUSTMENT PROCEDURE

Chose temperature with resistor instead of thermistore (see table).
In air applications turn R20 fully cw for maximum modulation depth.
In water applications turn R20 fully ccw.
Adjust the minimum current with R21.
When adjusting the modulation depth with R20 the minimum current needs to be readjusted.

Figure 1

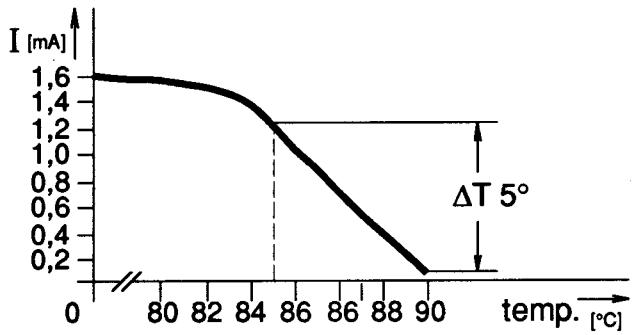


Table:

90°C	=	206,15Ω
88°C	=	219,29Ω
86°C	=	233,42Ω
84°C	=	248,62Ω
82°C	=	264,99Ω
80°C	=	282,57Ω
50°C	=	811,24Ω
48°C	=	875,74Ω
46°C	=	946,13Ω
44°C	=	1023,10Ω
42°C	=	1107,30Ω
40°C	=	1199,50Ω
$I_{NOM\ MAX}$	=	1,2A