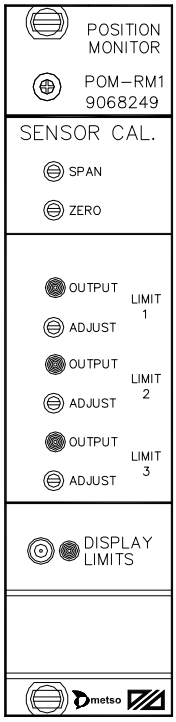
dametric

POM – RM1

VAL0123032 / SKC9068249



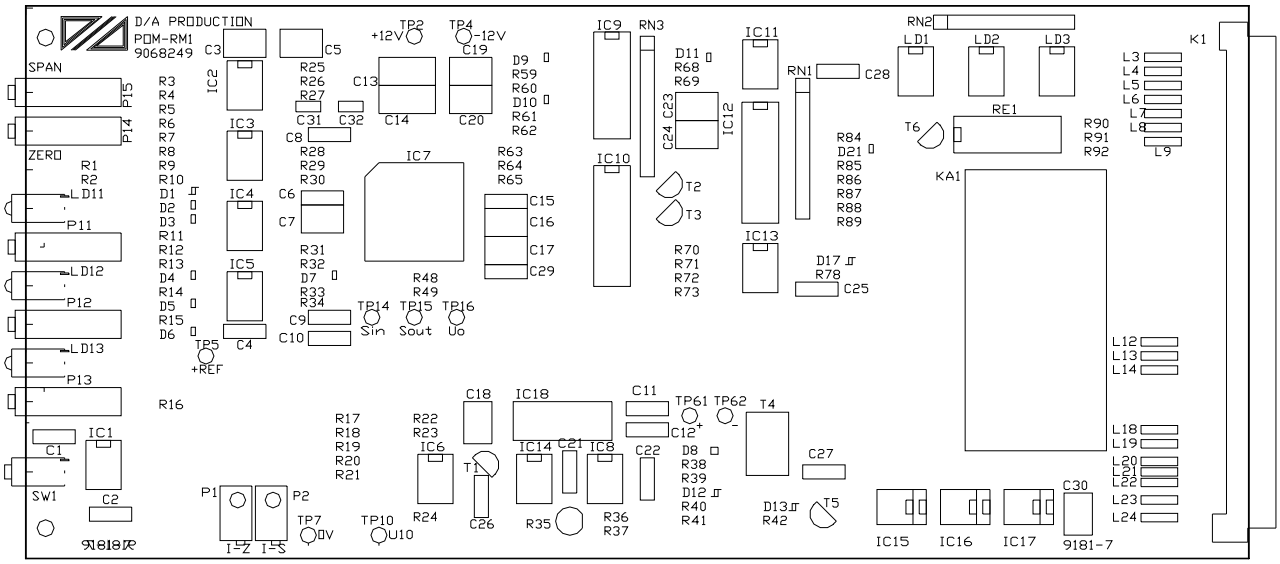
POSITION MONITOR
FOR THE RMS-SYSTEM

USERS MANUAL

Valmet

CONTENTS

1. LOCATION OF COMPONENTS



2. DESCRIPTION OF OPERATION

The POM-RM1 unit monitors the rotor position of the refiner.
The unit monitors a Rotor Position Transducer (POT-50), which is mounted on the refiner stand.
The transducer is fed with excitation currents, and the unit receives and amplifies a signal proportional to the axial position.
The transducer is described in the POT-50 Users Manual.
The monitor includes following functions:

- Zero and Span calibration for the transducer.
- Internal zero and span level-adjustments to 1V (0%) and 5V (100%).
- Isolated 4-20 mA output current.
- A 1-5 V voltage output for RMS enhanced display unit (LDU-RM1 or DCU-RM1/2).
- Three limit circuits, which compares the signal to three limit values. The limits are adjustable from 0 to 100 % of signal amplitude. The limit-outputs is active when the signal is higher on two of the limits and lower on one of the limits than the adjusted limit values. The active outputs is indicated at the front panel led's. A non-active output initiates a hysteresis on the rising slope of the signal. The output is optic-isolated from the unit, and drives a P-channel power transistor. The transistor is connected to the positive rail of the system power supply.
- A transducer input check circuit. Any fault deactivates the limit-outputs and generates –25 % signal amplitude on both the signal and the current output.
- A RMS-system interface which permits readouts of the measured level and the adjusted limit-values to the LDU-RM1 unit (=Limit Display Unit).
- A dc/dc power unit, which converts and isolates the 24 Vdc system power supply to the internal +12 V and –12 V dc-voltages.

3. TECHNICAL SPECIFICATION

Article no:	POM-RM1 / VAL0123032 / SKC9068249
Power supply:	+24 Vdc, ± 10%, max 0.14 A
Internal supply:	± 12 Vdc, isolated from the power supply
Board dimension:	L=220 mm, W=100 mm, T=30 mm (6 TE)
Panel adjustments:	LIMIT - 1, LIMIT - 2, LIMIT-3: 15-turn potentiometers
Panel output indicators:	LIMIT OUTPUT-1, LIMIT OUTPUT-2, LIMIT OUTPUT-3: green led's
Panel switch:	DISPLAY LIMITS: push-button switch
Signal input:	7-pole connection to the POT-50 transducer
Internal zero level:	+1.0 V ± 0.5%
Internal full-span level:	+5.0 V ± 0.5%
External digital outputs:	Optic isolated P-channel FET transistor connected to positive rail of the RMS-system voltage. Max current, 0.1 A
DO+POM1	Digital output LIMIT 1 to PLC
DO+POM2	Digital output LIMIT 2 to PLC
DO+POM3	Digital output LIMIT 3 to PLC
	Limits 1 and 3 are activated when the POM value is higher than the adjusted limit.
	Limit 2 is activated when the POM value is lower than the adjusted limit.
	It is no hysteresis when changing from the active to the inactive state.
	It is 2 % hysteresis when changing from the inactive to the active state.
	The led in the front of the unit indicates an activated output.
Analogue output 1:	Galvanically isolated current, 4-20 mA, ± 0.5 %
	Load: 0 - 800 Ω, Isolation voltage: max 500V
RMS-unit interface:	Yes

4. SETTINGS

The indication for the nominal stroke length must be configured.
This is done in the indicator unit (LDU-RM1 or DCU-RM1/2) of the RMS-system.

For settings, see the PROGRAMMERS MANUAL for the RMS-system, RMS-EX1, RMS-SD1, RMS-CD1 or RMS-DD1.

5. CALIBRATION

The unit must be calibrated together with the transducer.
For calibration, see the CALIBRATION MANUAL for the RMS-system, RMS-EX1, RMS-SD1, RMS-CD1 or RMS-DD1.

6. ADJUSTMENT

6.1 Adjustment of the limits

The adjustment of the alarm limits is done on this unit, but the reading of the limits must be done on the indicator unit (LDU-RM1 or DCU-RM1/2) of the RMS-system.
For adjustments, see the CALIBRATION MANUAL for the RMS-system, RMS-EX1, RMS-SD1, RMS-CD1 or RMS-DD1.

6.2 Adjustment of the current signal output

Zero adjustment (4mA)

- Connect a DVM to TP10 (+) and TP7 (-).
- Connect a current monitor to the signal current output (see connection for the system rack).
- Move the POT-50 transducer position until the DVM reads 1.00Vdc in TP10/TP7.
- Adjust the potentiometer P1 ("I-Z"), to 4.00mA output.

Span adjustment (20mA)

- Connect a DVM to TP10 (+) and TP7 (-).
- Connect a current monitor to the signal current output (see connection for the system rack).
- Move the POT-50 transducer position until the DVM reads 5.00Vdc in TP10/TP7.
- Adjust the potentiometer P2 ("I-S"), to 20.00mA output.

7. CONTACT

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