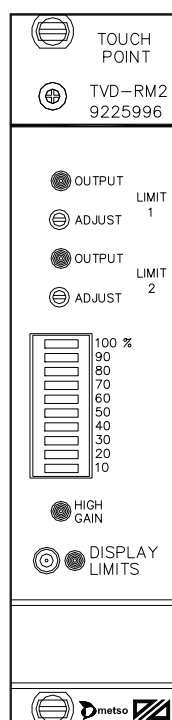


dametric 

TVD – RM2

VAL0123116 / SKC9225996

TOUCH POINT VIBRATION MONITOR



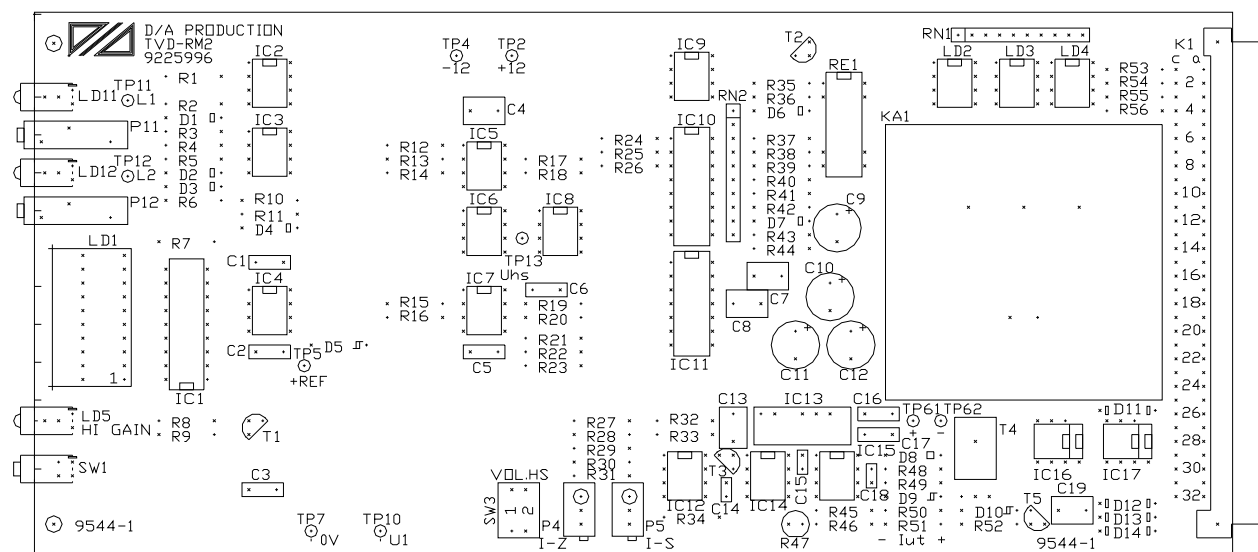
FOR THE RMS-DD SYSTEM
USERS MANUAL

Valmet 

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1 LOCATION OF COMPONENTS



2 DESCRIPTION OF OPERATION

The TVD-RM2 unit monitors a voltage signal from the DCA-RM2 unit, that corresponds to the touch point vibration signal inside the rotor of the refiner. The touch point vibration signal is detected inside the rotor by the TVD-TA1 unit. The signal is measured by the rotating unit (RMS-DDR1), then transmitted first to the stationary unit (RMS-DDS1) and then to the DCA-RM2 unit in the rack where it is finally converted to a voltage signal.

There is actually two serial values transmitted from the rotating unit, one for the high gain and one for the low gain sensitivity. The digital signal, DI+LOGA from the PLC unit, selects which one of them that will be converted to the voltage signal in the DCA unit.

The unit also receives the touch point audio signal from the stationary unit of the system. This signal is fed to the headset.

The monitor includes following functions:

Isolated 4-20 mA output current.

A 10 led-bar display for quick on board signal read-out.

An analog output for the headset.

2 circuits, which compares the signal to two limit values. The limits are adjustable from 0 to 100% of the signal amplitude. Each limit-output is active when the signal is lower than the adjusted limit value, and is indicated by the front panel led's.

A not active output initiates a 2 % hysteresis before returning to active.

The output is opto-isolated from the unit, and drives a P-channel power transistor.

The transistor is connected to the +rail of the system power supply.

A RMS-system interface which permits readouts of the measured level and the adjusted limit-values to the LDU-RM1 unit or the DCU-RM1 unit. A dc/dc power unit, which converts and isolates the 24 Vdc system power supply to the internal +12V and -12V dc-voltages.

3 TECHNICAL SPECIFICATION

Article number:	TVD-RM2 / VAL0123116 / SKC9225996
Power supply:	+24 Vdc, $\pm 10\%$, 0.19 A
Internal supply:	± 12 Vdc, isolated from the power supply
Board dimension:	L=220 mm, W=100 mm, T=30 mm (6 HE)
Panel adjustments:	LIMIT - 1, LIMIT - 2: 15-turn potentiometers
Panel indicators:	LIMIT OUTPUT-1, LIMIT OUTPUT-2: green led's HIGH GAIN: yellow led SIGNAL: 10 led bar-display
Panel switch:	DISPLAY LIMITS: push-button switch
Input signal:	1.0 - 5.0 Vdc
Internal zero level:	+1.0 V $\pm 0.5\%$
Internal full-span level:	+5.0 V $\pm 0.5\%$
External digital input:	Opto isolated digital input from the PLC-system. Input resistance: 2 k Ω . Voltage level: 24 Vdc. DI-LOGA, Digital input, Low Gain, from PLC
External digital outputs:	Opto isolated P-channel FET transistor connected to positive rail of the rms system voltage. Max. current, 0.1 A DO+TVD1, Digital output, LIMIT 1, to PLC DO+TVD2, Digital output, LIMIT 2, to PLC The limits are activated when the TVD 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.

Analog output 1: Galvanically isolated current, 4-20 mA, $\pm 1\%$
load: 0 - 800 Ω
isolation voltage: max 500V
Analog output 2: Voltage output for headset
RMS-unit interface: Yes

4 SETTINGS

Headset volume

SW3	/1	/2	
off	off	100 % volume	(default setting)
on	off	67 % volume	
off	on	33 % volume	
on	on	25 % volume	

5 ADJUSTMENTS

The adjustment of the alarm limits is done on this unit, but the reading of the limits must be done on the indicator unit, DCU-RM1, of the RMS-system.

For adjustments, see the CALIBRATION MANUAL for the RMS-DD1 system.

6 CONTACT

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