



The resistance measurement device RMESS24 was developed to measure the resistance curve of cables and wires during endurance testing. The device has a total scanning frequency of 2400 Hz and performs 100 four-pole measurements per second on 24 channels in a multiplex process. As a result, the device is capable of detecting interruptions for longer than 10ms. Due to the automatic switching of the measurement ranges, the measurement device features a high dynamic range and is capable of measuring resistances in the $\mu\Omega$ range up to 200 Ω within 0,4ms.

In addition to the resistance values, the RMESS24 also transmits the status of the sensor inputs in order to record the movement cycles of alternate bending and other cable test devices. Our Windows-based software **Flextest** allows readings to be displayed, analysed and stored in a MySQL database.

Features

- 4-pole resistance measurement on 24 channels
- 100 Hz scanning frequency for each channel
- 4 measurement ranges with autorange
- Sensor inputs to record movement cycles
- Data streaming via USB

Application

- Monitoring the increase in resistance during alternate bending tests on cables and wires
- Breakage detection for single wires in sheathed cables
- Detection of interruptions > 10ms

Technical data

Number of measurement channels	24
Scanning frequency	100 Hz for each channel
Measuring technique	Four-pole measurement
Measurement range	0.2, 2, 20, 200 Ohm with autorange
Resolution	16-bit (3 $\mu\Omega$ in 200m Ω range)
Constant current	1mA or 100mA multiplexed
Sensor inputs	3 potential-free inputs 5..24V, 50Hz scanning frequency
Power supply	110-240V, 47-63 Hz
Dimensions	W300 x H55 x D195 mm
Weight	1.95 Kg



Connector

X1	50-pin SCSI-II female	positive sense/force
X2	50-pin SCSI-II female	negative sense/force
X3	5-pin M12 female	Sensors
X4	USB 2.0 type B	Data transmission
X5	Appliance connector	

X1 positive sense/force

Pin	Signal	Pin	Signal
1	+Sense Ch 1	26	+Force Ch 1
2	+Sense Ch 2	27	+Force Ch 2
3	+Sense Ch 3	28	+Force Ch 3
4	+Sense Ch 4	29	+Force Ch 4
5	+Sense Ch 5	30	+Force Ch 5
6	+Sense Ch 6	31	+Force Ch 6
7	+Sense Ch 7	32	+Force Ch 7
8	+Sense Ch 8	33	+Force Ch 8
9	+Sense Ch 9	34	+Force Ch 9
10	+Sense Ch 10	35	+Force Ch 10
11	+Sense Ch 11	36	+Force Ch 11
12	+Sense Ch 12	37	+Force Ch 12
13	+Sense Ch 13	38	+Force Ch 13
14	+Sense Ch 14	39	+Force Ch 14
15	+Sense Ch 15	40	+Force Ch 15
16	+Sense Ch 16	41	+Force Ch 16
17	+Sense Ch 17	42	+Force Ch 17
18	+Sense Ch 18	43	+Force Ch 18
19	+Sense Ch 19	44	+Force Ch 19
20	+Sense Ch 20	45	+Force Ch 20
21	+Sense Ch 21	46	+Force Ch 21
22	+Sense Ch 22	47	+Force Ch 22
23	+Sense Ch 23	48	+Force Ch 23
24	+Sense Ch 24	49	+Force Ch 24
25	NC	50	NC

X2 negative sense/force

Pin	Signal	Pin	Signal
1	-Sense Ch 1	26	-Force Ch 1
2	-Sense Ch 2	27	-Force Ch 2
3	-Sense Ch 3	28	-Force Ch 3
4	-Sense Ch 4	29	-Force Ch 4
5	-Sense Ch 5	30	-Force Ch 5
6	-Sense Ch 6	31	-Force Ch 6
7	-Sense Ch 7	32	-Force Ch 7
8	-Sense Ch 8	33	-Force Ch 8
9	-Sense Ch 9	34	-Force Ch 9
10	-Sense Ch 10	35	-Force Ch 10
11	-Sense Ch 11	36	-Force Ch 11
12	-Sense Ch 12	37	-Force Ch 12
13	-Sense Ch 13	38	-Force Ch 13
14	-Sense Ch 14	39	-Force Ch 14
15	-Sense Ch 15	40	-Force Ch 15
16	-Sense Ch 16	41	-Force Ch 16
17	-Sense Ch 17	42	-Force Ch 17
18	-Sense Ch 18	43	-Force Ch 18
19	-Sense Ch 19	44	-Force Ch 19
20	-Sense Ch 20	45	-Force Ch 20
21	-Sense Ch 21	46	-Force Ch 21
22	-Sense Ch 22	47	-Force Ch 22
23	-Sense Ch 23	48	-Force Ch 23
24	-Sense Ch 24	49	-Force Ch 24
25	NC	50	NC