



E4N

COLUMN DISPLAY UNIT



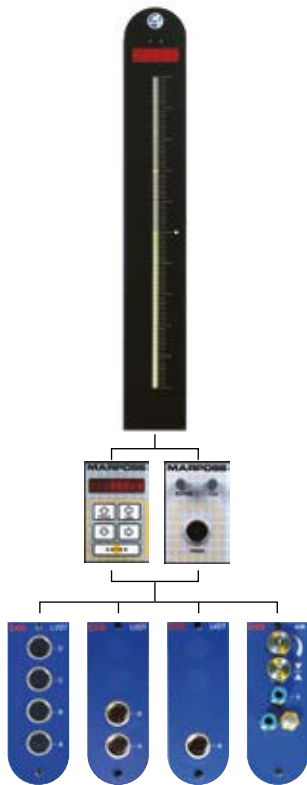
Indicators and electronic display units

E4N™ is a column display unit designed to elaborate and display dimensional and geometrical measurements, either static or dynamic (Max, min, Range, Range/2, Average).

The measurement value is displayed:

- in an analog way on the 101 threecolour LED bargraph scale, showing the measurement status (green = good; red=scrap; yellow=precrap).
- in a digital way on the eight-digit display, in comparative or absolute mode.

Product features



The column display unit can be configured according to specific application needs, employing different sensor modules provided with 1, 2 or 4 input channels.

These modules can be:

- Full-bridge (LVDT), with 1, 2 or 4 channels
- Half-bridge (HBT) with 1, 2 or 4 channels
- AIR, pneumo-electronic converter with 1 channel

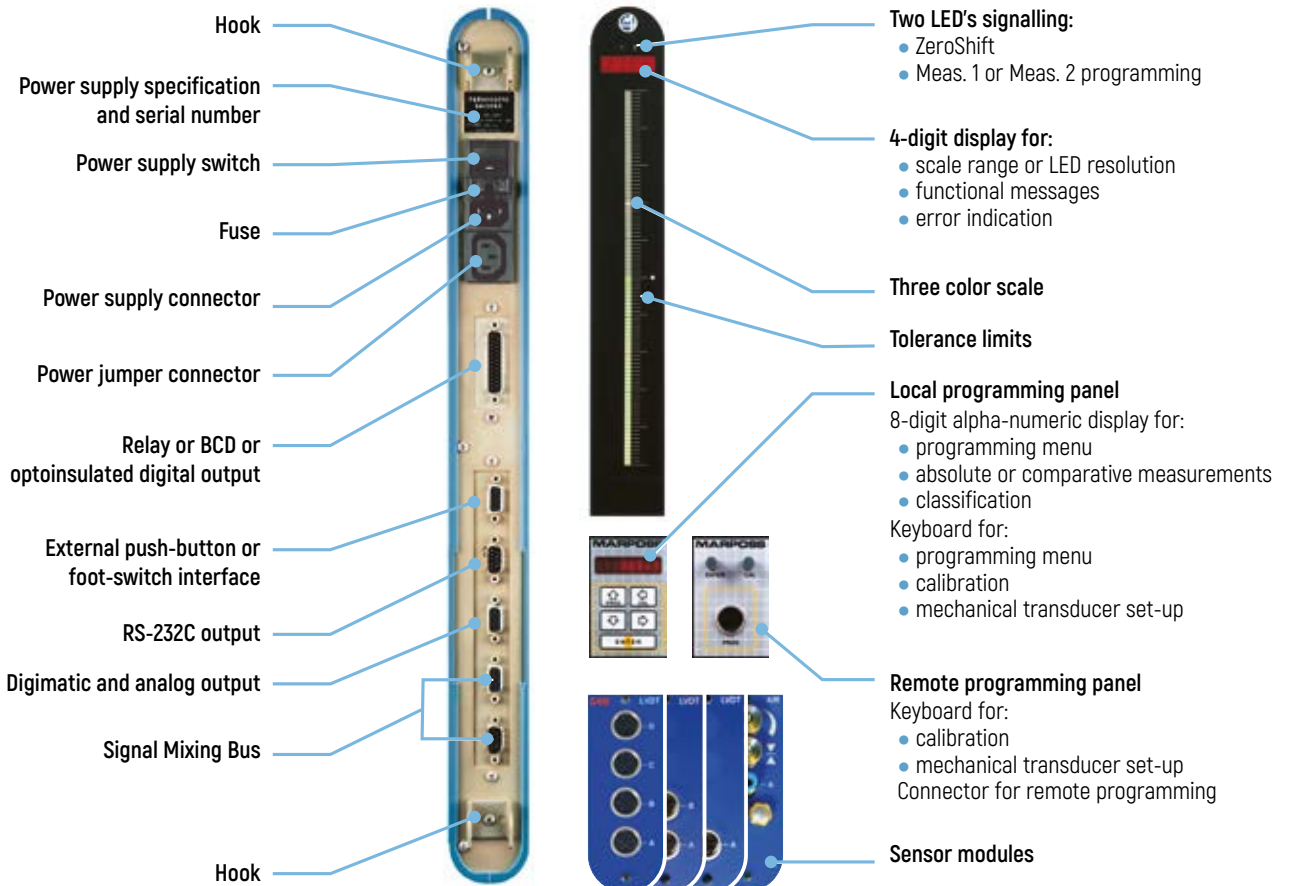
Each module is perfectly interchangeable with the other modules. LVDT and HBT sensors with measuring range from $\pm 0,25$ mm (0.001") to ± 5 mm (0.02") can be connected.

Programmable measuring units: Millimeters, inches, grams, degrees. Up to 8 sensors can be managed by connecting multiple columns via the bus cable, to carry out even complex measurements.

The E4N features a wide range of interfaces:

- Digimatic and analog to send data to statistical printers or data collectors
- RS232-C to send data to PC or standard printers
- Relay/BCD to provide a signal for alarms, resume lamps etc.
- connector to interface external push-buttons or footswitches.

It can be programmed via local keypad or PC (by means of the specific E4N-PC LINK software, which also allows data collection)



Displacement Sensors



Bore Gauges Line



Forks and Ring Gauges



Bench Gauges



Indicators and Electronic Display Units



Interface Boxes for Data Acquisition



Software



TECHNICAL SPECIFICATIONS

Characteristics	
Power supply	85/265 VAC 50/60 Hz ± 10%
Max. consumption	40 VA
Protection level	IP 50
Storage temperature	-40/+60 °C
Working temperature	0/+50 °C
Weight	3,7 kg approx
Arm ratio and sensitivity adjustment	from -4 to +4 with 0,001 step
Accuracy at 20°C	± 0,5 % reading value ± resolution
Scale	Up to 10 programmable ranges, from ±0,005 to ±5 mm (0.000250" to 0.2")
Scale resolution	1/100 of range, from 0,1 to 100 µm (0.000005" to 0.004")
Connector type	6 Pin (DIN 45322) for gauges with Lumberg SV50/6 connector
Air supply pressure for E4N Air	3 bar ± 0,1

E4N AIR APPLICATION RANGE

The MARPOSS and/or non-MARPOSS air gauges, with specifications inside the blue area of the diagrams, can be easily and immediately connected.

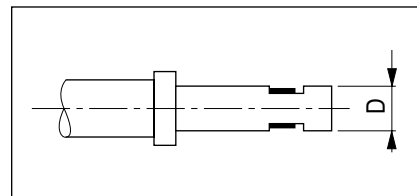
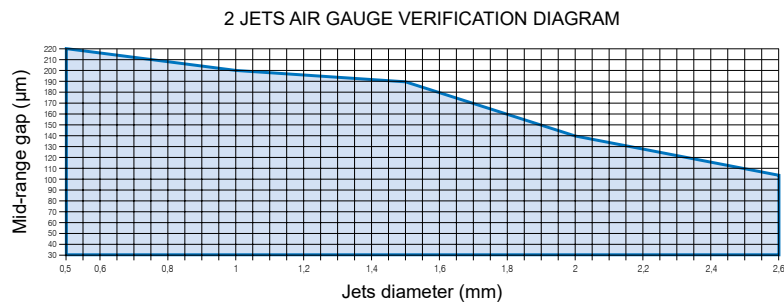
The parameters to be considered are the following:

- number of air gauge jets
- diameter of air gauge jets
- "mid-range gap", as to the difference between the mid-tolerance diameter of the part to be measured and the distance between the air gauge jets.

EXAMPLE OF MEASUREMENT WITH AIR-PLUG

- number of jets : 2
- diameter of jets: 2mm
- diameter of the part to be measured = 10 mm ± 0.030
- mid tolerance diameter = 10 mm
- distance between the jets D = 9.90 mm
- "mid tolerance gap": (10 - 9.90) = 0.10 mm = 100 µm

As shown in the above diagram the intersection between the value of the "mid-range gap", 100 µm, and the diameter of the jet, 2 mm, is inside the blue area: the application can be therefore realized.



HOW TO ORDER

Transd. Type	Transd. Input	Column with local Programmer			Column with remote programmer (E4N pc-link)		
		Basic Version	BCD Relais	Optoinsulated digital output	Basic Version	BCD Relais	Optoinsulated digital output
LVDT	1	B76520020X0	B76520021X0	B7652002232	B76520040X0	B76520041X0	B7652004232
	2	B76520120X0	B76520121X0	B7652012232	B76520140X0	B76520141X0	B7652014232
	4	B76520220X0	B76520221X0	B7652022232	B76520240X0	B76520241X0	B7652024232
HBT	1	B76523020X0	B76523021X0	B7652302232	B76523040X0	B76523041X0	B7652304232
	2	B76523120X0	B76523121X0	B7652312232	B76523140X0	B76523141X0	B7652314232
	4	B76523220X0	B76523221X0	B7652322232	B76523240X0	B76523241X0	B7652324232
AIR	1	B76529020X0	B76529020X0	B7652902232	B76529040X0	B76529041X0	B7652904232

X = see note at bottom of page 4

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ACCESSORIES

Description		Order Code	
E4N AIR USA with local programmer (basic version)		B76529120X0	
E4N AIR USA with local programmer (BCD relais)		B76529121X0	
3 - colour meter module with local programmer (basic version)		B76529920X0	
3 - colour meter module with local programmer (BCD relais)		B76529921X0	
3 - colour meter module with remote programmer (basic version)		B76529940X0	
3 - colour meter module with remote programmer (BCD relais)		B76529941X0	
Amplifier module for 1 LVDT sensor		B6876004013	
Amplifier module for 2 LVDT sensors		B6876004012	
Amplifier module for 4 LVDT sensors		B6876004011	
Amplifier module for 1 HBT sensor		B6876004005	
Amplifier module for 2 HBT sensors		B6876004004	
Amplifier module for 4 HBT sensors		B6876004003	
Amplifier module for 1 MRT sensor		B6876004008	
Amplifier module for 2 MRT sensors		B6876004007	
Amplifier module for 4 MRT sensors		B6876004006	
Amplifier module for 1 AIR sensor		B6876004009	
BCD relais interface card		B6344360100	
Optoinsulated digital output card		B6344360200	
Bus cable for signals exchange among E4N columns		B6738057011	
Y-shaped connecting cable from 1 LVDT sensor to 2 E4N inputs (L= 1,2 m)		B6735932014	
RS232-cable	From remote programming module to a PC (L= 3 m)	25 pin	B6735916001
		9 pin	B6735957001
	From rear serial output to a PC (L= 3 m)	25 pin	B6737916000
		9 pin	B6737957002
Chain serial cable from 2 E4N to a PC		B6739797030	
Chain serial cable from 3 E4N to a PC		B6739797029	
Chain serial cable from 4 E4N to a PC		B6739797028	
Connecting cable from Digimatic output to Mitutoyo DP1 - DP2 - DP3 (L= 1 m)		B6738099016	
Cable for analog output		B6738098009	
External pushbutton panel (4 buttons) with cable (L= 1,5 m)		B6139012600	
Footswitch with connecting cable to the column or to the pushbutton panel (cable L= 2 m)		B6738099015	
Connecting cable of 2 E4N columns to pushbutton or footswitch keyboard		B6738097009	
Connecting cable of 3 E4N columns to pushbutton or footswitch keyboard		B6738097010	
Connecting cable of 4 E4N columns to pushbutton or footswitch keyboard		B6738097011	
Connecting cable of 5 E4N columns to pushbutton or footswitch keyboard		B6738097012	
Power supply cable (L= 2 m)	JP / USA	B4709009003	
	WITHOUT PIN	B6739696566	
	ITALY	B4709009002	
	F/D	B4709009001	
Power jumper cable from E4N to E4N		B4709009004	
Adapter extension from Lumberg S3 to 6 pin connector on E4N for LVDT input (L= 400 mm)		B6738536000	
Support stand (for up to 5 columns)		B6131410040	
Support stand link studs (2 required for each additional module)		B1529040210	
Card with adhesive stickers (Graphic symbols)		B1529040460	
Air filtering and adjusting unit		B2915490053	
2 x 90° quick clutch nipple		B2915490052	
2 x straight quick clutch nipple		B2915490050	
Sensitivity adjustment knob cover		B1015420614	
Sensitivity and zero adjustment knob cover		B1015420615	

X = 3 SW release 4.0; 5 SW release 2.72; 6 SW release 6.3 allowing elaboration and visualization of up to four measurements.

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