

High-Tech Processor for Ultrasonic Wall Thickness Measurement

Wall Thickness ■ Deviation ■ Eccentricity ■ Multilayer



Wire ■ Cable ■ Tubing ■ Hose ■ Pipe ■ Plastics ■ Rubber

General

The UMAC® CI is an industrial hi-tech electronic unit for processing wall thickness data measured by ultrasound (UMAC® = Ultrasonic Measurement and Control). The UMAC® CI can be used in many ways thanks to its flexible and extendable multiprocessor technology. The newest DSP (Digital Signal Processor) technology also allows the UMAC® CI to be used in a variety of new applications.

UMAC® processors from Zumbach are the perfect answer when quality improvement and material savings constitute primary goals and investment costs must be minimal.

All UMAC® scanners from Zumbach with 4, 6 and 8 measuring points can be connected to the UMAC® CI.

Ideal Return-on-Investment Data

The attractive purchase price and the short payback time make the UMAC® CI doubly worthwhile.

Wall Thickness and Eccentricity Measurement

The UMAC® CI delivers high rate measurements of wall thickness at up to 8 points.

All measuring values are processed by the UMAC® CI and are available for call up at the Host port.

Interfaces

The UMAC® CI is equipped with three interfaces. A Host port and an "extended" Host interface enable the UMAC® CI to communicate with a higher level system.

The Host interface also contains a service interface which allows the system settings to be checked and altered.

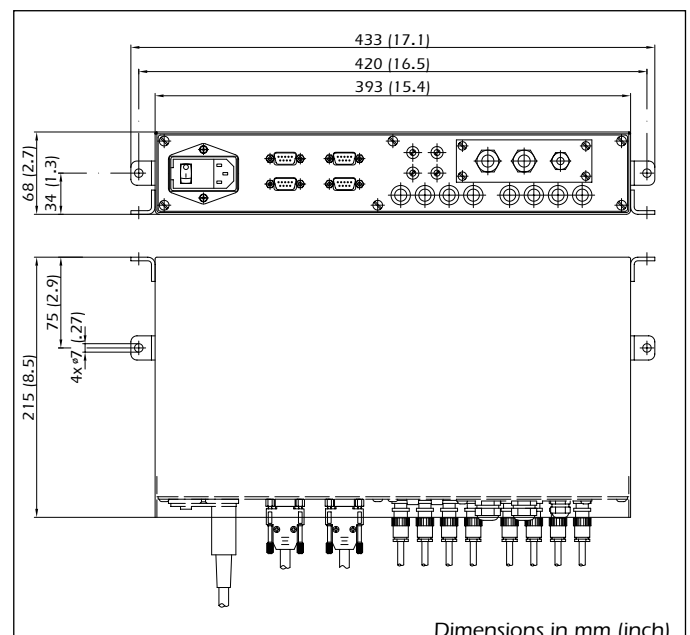
The UMAC® CI is also available as PROFIBUS DP version.

Choice of Product Specific Scanners

A choice of ultrasonic scanner models for specific applications and with different measuring ranges is available for connection to the UMAC® CI. The full range of UMAC® scanners with typically 4, 6 or 8 transducers is compatible with the UMAC® CI.

Operation

The UMAC® CI is controlled by a higher level system. The exchange of data takes place through a serial RS interface or a PROFIBUS DP interface. Data processors and display units from the USYS family of ZUMBACH products are also most suitable for control of the UMAC® CI.



Dimensions in mm (inch)

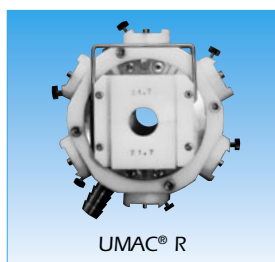
Technical Data	
Measurement principle	Time based / Ultrasonic
Wall thickness range	0.01...99.95 mm (.0004...4 in.), depending on product
Diameter range	Depending on scanner model (see below)
Repeatability	Down to ± 0.001 mm ($\pm .00004$ in.), depend. on product and measuring mode
Measuring rate	Up to 15'000 measures/s in SHR (Super High Rate) mode
Transducer frequency	1...30 MHz (depending on product and model)
Number of transducers	Configurable: 1 up to max. 8
Status display	4 LEDs to display processor status
Operation / Interfaces	Up- / Download via serial interfaces (special version for PROFIBUS DP)
Power supply	100...240 V AC; 50/60 Hz
Interfaces	1 Service RS-232 (ASCII) 1 Host RS-232/-422/-485 (ASCII / ANSI) 1 "Extended" Host RS-232/-422/-485 (ASCII / ANSI Extended)
Temperature range	Operating: 0...50° C (32...122° F) Storage/transport : - 20...50° C (- 4...122° F)
Max. atmospheric humidity	80% (non-condensing)
Weight	5 kg (11 lbs.)

► Kindly request our special data sheets for other UMAC® processors.

▪ Technical specifications are subject to change without notice

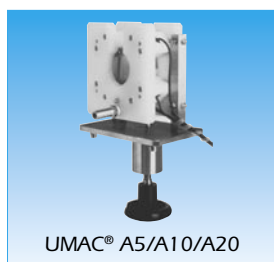
Scanners

Numerous scanner models are available for specific products such as tubing, pipe, flexible hose, cable and more.



UMAC® R

"R" scanners feature their own water supply for applications where no water basin is available.



UMAC® A5/A10/A20

Compact "A" scanners for wire, catheter and small tubing.



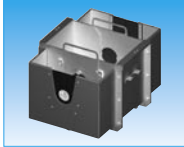
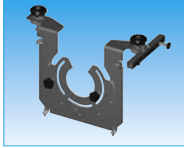
UMAC® Z50/Z100

Novel Z scanners for cable jackets, insulation, tube, hose. Two quick hand adjustments to suit new product diameter within a few seconds. Large measuring range with the same scanner.

Model	Number of measuring points	Diameter range	
		mm	inch
UMAC R40-4K	4	1.5 ... 40	.06 ... 1.58
UMAC R40-6K	6	1.5 ... 40	.06 ... 1.58
UMAC R63-4K	4	2 ... 63	.08 ... 2.48
UMAC R63-6K	6	2 ... 63	.08 ... 2.48
UMAC R63-8K2	8	2 ... 63	.08 ... 2.48
UMAC R63-8K	8	20 ... 63	.78 ... 2.48
UMAC A5CF-4K	4	0.2 ... 5	.00820
UMAC A10CF-4K	4	1.0 ... 10	.0439
UMAC A20CF-4K	4	6.4 ... 20	.2578
UMAC Z50-4K	4	5 ... 50	.19 ... 1.97
UMAC Z50-6K	6	5 ... 50	.19 ... 1.97
UMAC Z100-4K	4	10 ... 100	.39 ... 3.94
UMAC Z100-6K	6	10 ... 100	.39 ... 3.94

► R and Z scanners for bigger diameters or customer specific solutions upon request.

Accessories / Alternatives

- **UMAC CI-DP**
Processor as PROFIBUS DP version.
- System extension with USYS processors for display and processing of the measured data, as well as for the connection of other measuring instruments.
- **F Version**
Additional water basin for the accomodation of the scanner (with or without H version). 
- **H Version**
For R and Z scanners. Comprises holder with scanner for direct mounting into existing cooling trough or water basins of the F versions. 

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