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# STOTZ®

## Air Gaging Solutions



*Let us be your Single Source for all  
your Air Gaging needs!*

# MRA Compact Computer

The MRA (Multifunctional Measuring and Control Computer) is designed for high precision, and multi-functional capabilities. In addition to providing various ways for measuring input, it can be customized to meet customer requirements.

The MRA can be used in automated cells, robotic controls, or manually. With four electronic or air input cards, the MRA provides measurement solutions with a combination of inputs.

- 12.1" Touch screen
- Up to 16 air or electronic inputs built in with "snap-in" cards
- Gauging and Controls by in-process and post-process
- Up to 99 programs stored internally and more available offline
- Display can be set to Inch, Metric, and many other options
- Customizable full color display



## Technical Details

Measuring Channels.....	Up to 16 air or Electronic
Graphic Display.....	12.1" Color touchscreen
Measuring Programs.....	99 internal built-in
Serial Interface.....	RS232, COM1
Ingress Protection.....	IP 52
Power Supply.....	100-230 V AC: 65W; 42-60 Hz
Dimensions.....	14"x17.6"x8.7" 356x447x221mm
Connections.....	USB, Operating Box, PS2 Keyboard, Network (Ethernet)

### Optional Connections:

Digital: 8 and 16 x I/O opto  
24V, 4mA, Analog I/O, LPT

# MSG Air-Electronic Column

## **In-process and post-process gauging and control**

The MSG is equipped with a standard 24 V digital interface for the control and the data interchange with the machine or another controlling device. In the full configuration, up to 56 opto-isolated inputs and 56 opto-isolated outputs are available for the control and handshake. The measured values can be transferred to the attached device as programmable analog signal, BCD digital value, through serial (RS232) or parallel interface (LPT) or over the Ethernet port using TCP/IP protocol.

## **Pneumatic length measuring**

Air gaging is the main measuring mode of the MSG which is optimized for robust and high precision length measurement suitable for industrial applications.

The MSG has minimized air consumption and maximized measuring stability through a monitored air supply. A patent pending method for air gauging assures a maximum measurement performance with the minimized air consumption and high reliability of the measurement. If attached to the common air supply line, the MSG eliminates the need of an external monitor of the actual pressure. No adjustment on the device is necessary.

## **Evaluation of miscellaneous gauge signals**

The modularity of the MSG allows a simultaneous conditioning of several signal types i.e.: voltage, current, LVDT and air gauging.

## **Easy to operate with only 3 buttons**

The program and feature parameters are to be changed using only 3 buttons which are also used for the navigation of the measuring and calibration process (START/STOP/CAL). Only the data fields really needed for the concrete application will be enabled on the graphical display. In this way, the operator will very quickly get the relevant data concerning his measuring task and omitting unused set of the parameters. The data fields are enabled/disabled using LMSG Program designer.

## **Free programmable customer control functions**

All built-in hardware (digital I/O, analog I/O, serial, parallel, TCP/IP) is free programmable at the bit-level, i.e. the customer has access to all resources using the MSG programming language (MCL)

## **Internal data transfer between MSG devices**

If the processing power or number of measuring channels of one MSG doesn't meet the requirement, several MSG's can be interconnected to act virtually as a larger measuring system. The interconnection can be realized using serial RS232 or RS485 interface or TCP/IP network.

## **Data exchange with system network (file transfer over TCP/IP Protocol)**

The LMSG (Network version) supports standard file sharing (client and server) based on TCP/IP protocol and can be directly integrated as a industrial computer in a customer network.

## **Web Server**

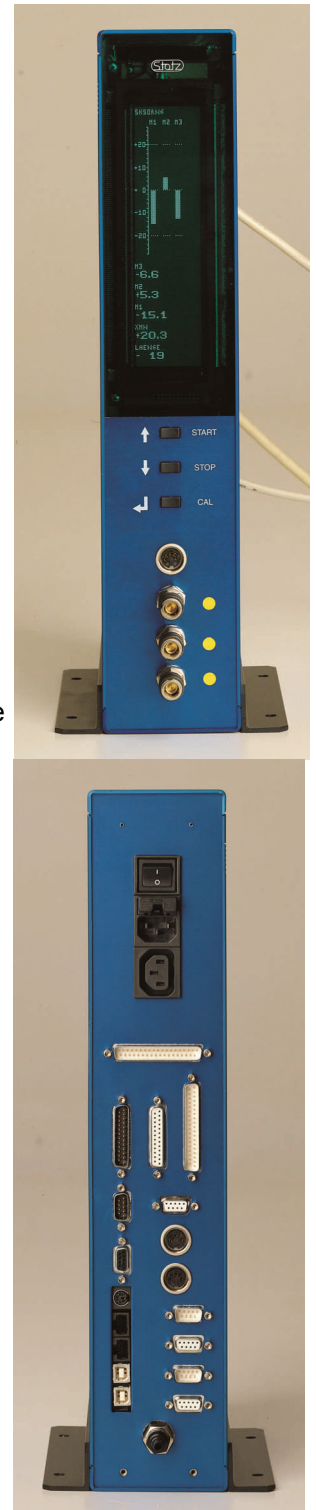
The more powerful version of the LMSG includes a web server which enables monitoring of the measuring process using a standard web browser from any computer attached to the network. This displayed applet in the browser is programmable and can be interpreted as an additional virtual display of the LMSG.

## **Statistical Analysis**

The LMSG supports fundamental SPC functions such as control charts etc.

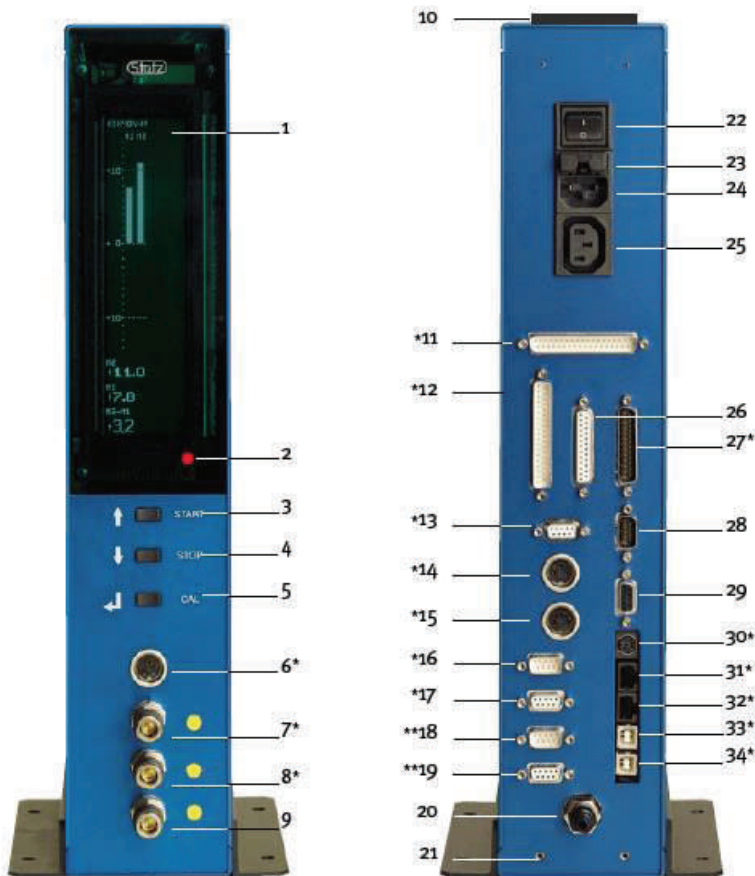
## **Compact design**

The compact design takes up less space in your work area with the ability to attach several simple measuring devices and to transfer the sampled data to the local network.





# MSG Air-Electronic Column Continued



## Front:

1. Graphic Display
2. Status LED
3. START (Up)
4. STOP (Down)
5. Calibrate (Enter)
6. Analog input (or LVDT) channel 4
7. Analog input (or LVDT) channel 3
8. Analog input (or LVDT) channel 2
9. Analog input (or LVDT) channel 1

## Back:

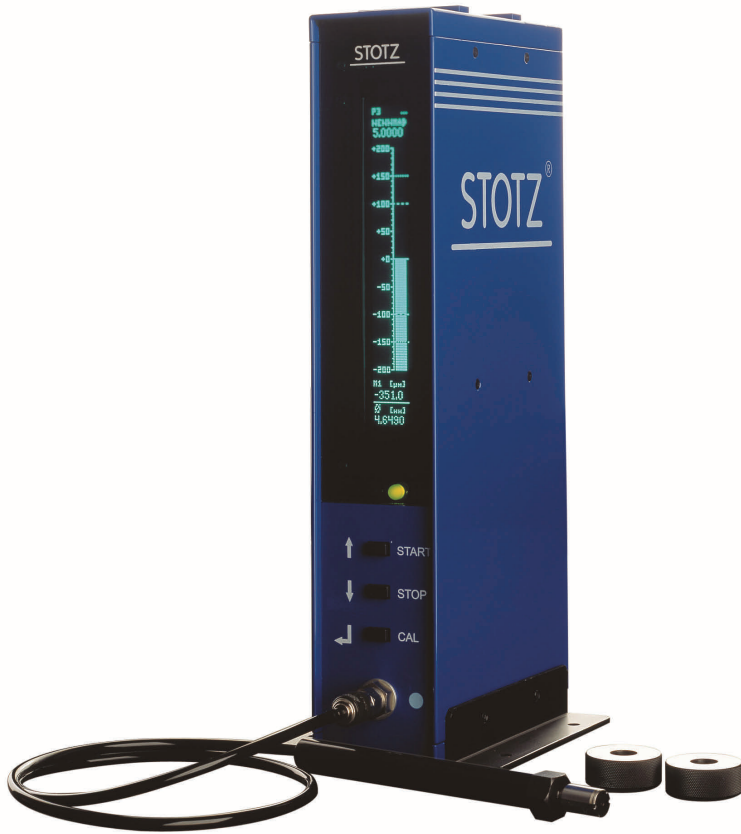
10. Mounting bracket for combining several MSG Devices
11. 8 x relay output and 8 x digital input
12. 16 x digital output and 16 x digital input
13. Additional serial interface
14. LVDT or analog input
15. LVDT or analog input
16. 8 x digital input
17. 2 x analog output
18. 8 x analog input
19. E.g. VGA/or floppy
20. Air pressure input (nominal pressure 45 PSI)
21. Mounting bracket for combining several MSG devices
22. Main switch
23. Fuse
24. AC supply for additional MSG devices
25. Power Supply
26. 4/8 x digital input and 4/8 x digital output
27. Printer interface
28. RS232 COM1
29. Interface for external operator box
30. Interface for PC-compatible keyboard
31. RJ45
32. RJ45
33. USB
34. USB

## Features:

- **Up to 4 pneumatic channels or 10 LVDT or a combination of both simultaneously**
- Repeatability as low as 0.0002 mm (0.000008") depending on application
- In Process and Post Process gaging and control
- Easy to Operate
- Fully Programmable graphic display
- User specific programming
- RS232 output
- Ethernet ready
- LED's - Green = Good / Red = Bad for visual acceptance
- Network compatible using Ethernet TCP/IP
- Webserver (optional) can see display from any PC on the network using a standard web browser
- Minimized Air Consumption
- Foot Switch (optional)
- 18 different programs can be loaded, making switching from 1 diameter to another very simple
- Simplest Calibration procedure in the industry. No offset and gain adjustment to manipulate. All handled electronically, so calibration takes only seconds.

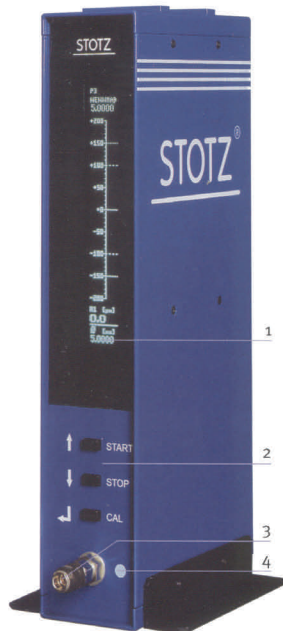


# MLS Air-Electronic Column



## Features:

- Simple Operation with Menu Guidance
- 1 pneumatic Measurement
- Graphical Display with 32x256 Pixels
- User Programmable Scaling of Bar Chart
- In-Process and Post Process Measuring
- Serial Interface (RS232)
- Data Exchange in the RS485 Network
- Minimum Air Consumption (Patented Measuring Procedure without Pneumatic Bridge)
- Monitoring of the Measuring Air Supply
- Small Dimensions
- Compact Design
- Precision Measuring under Industrial Operating Conditions
- Display in Metric or Inch
- Available in English, Spanish, German, French, and Italian languages
- Digital Input and Outputs for machine control (24V) 8x
- **Low Cost (Call today and get a Quote!)**



### Front

- 1 Display
- 2 Control Keyboard
- 3 Exit Pneumatic Channel
- 4 Identification Color-Transducer-Type

### Back

- 5 Power Switch
- 6 8 x I/O opto Interface
- 7 Serial Interface RS232
- 8 Inductive Input 1
- 9 Inductive Input 2
- 10 Connection Operating Box
- 11 Serial Interface RS485
- 12 Entrance Pneumatic Channel

Fig. 01



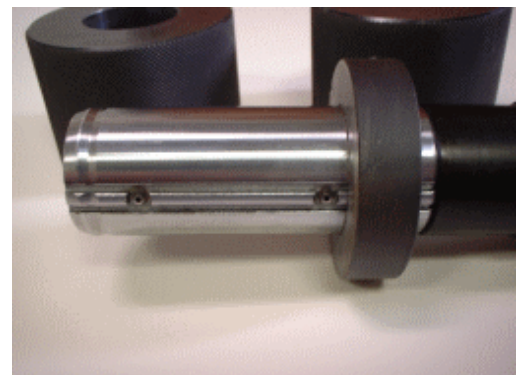
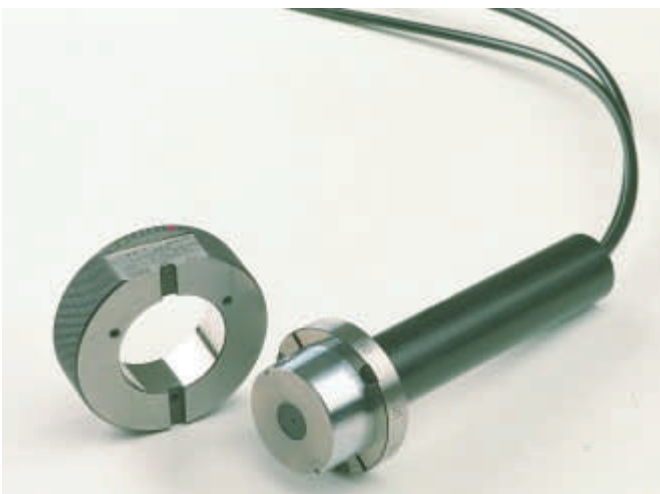
Fig. 02

# Air Probes, Air Rings, Master Rings, and Master Discs

Stotz produces every type of air probe and air ring that you can imagine. We can measure diameters from 2mm on up. We can check both I.D. and O.D. Air probes and Air rings are typically provided with 2 air jets positioned 180° apart. We also can make them with 3, 4, or 6 jets depending on the application. We also offer Master Setting Rings and Discs. We make them in X, XX, and XXX classes and they can either be steel, chrome, or carbide (on request only).

*Some of the things we can measure.....*

- **O.D. and I.D. Measurements**
- **Multiple Measuring Levels**
- **Straightness**
- **Lengths**
- **Perpendicularity**
- **Parallelism**
- **Run-out—Roundness**
- **Cylindricity**
- **Classification/Category Sorting**
- **Flatness**
- **Tapers**
- **HSK, CAT, Morse Taper Toolholders and Spindles**
- **Many other Geometric callouts**





## PEW Air Electronic Transducer

This unit would be used with Air Gage tools to check various diameters or geometrical callouts. The PEW produces a +/- Voltage signal proportionate to the diameter variation. The PEW contains no moving parts and is therefore free of wear. It has the distinction of high precision measuring for quick measurements and can be used for very small measurements. This unit is typically used inside of machine where a display is not required. It will connect to your PLC and provide very accurate results. The setting time of the PEW is merely 250 ms.



## SPW Rapid Air Electronic Transducer

This unit is the same as above but with a much faster response time. The setting time of the SPW is merely 30 ms. This device can be used in conjunction with a linear scale and our DOORS software to actually draw the contour of the part being measured.



## DSPW Digital Rapid Air Electronic Transducer

This unit is the same as the SPW but with a digital signal instead of an analog signal. The setting time of the DSPW is 40 ms. The digital signal can be displayed on several devices or be employed to control processing machines. An Ethernet interface allows a direct and platform independent Computer interface (e.g. Linux, Solaris, Windows, etc.) They can also be made to interface with CANbus for the Gehring machines.



## Measuring Systems

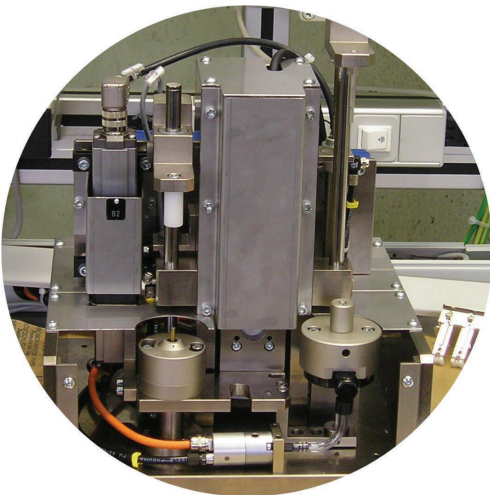
Stotz specializes in designing and manufacturing customized measuring stations for customer specific applications. This can range from manual to automatic loading/unloading and can be completely customized for your application and requirements.

These systems can be used to scan contours of Inside or Outside diameters. They incorporate our SPW transducers as well as a linear drive and scale. With this combination we can draw the contour of your part on the computer monitor and with the SPC software, we can ACCEPT/REJECT/ or REWORK the part based on your requirements.

Our measuring systems can be used for part classification and matching of mating components. They can also be used as an integral part in a match grind application. The workpiece can be measured and the results sent directly to your grinding machine to match grind the part.

The measuring systems are completely computerized and utilize the Stotz DOORS SPC software.

We would be glad to discuss any applications or requirements that you have. Give us a call and let us put our experience to work for you.





## **Stotz History**

Stotz Feinmesstechnik GmbH in Gerlingen, Germany designs, manufactures and sells pneumatic-electronic gauges and control devices. Our customers are manufacturers and suppliers of the medical, automotive and aerospace industries. Furthermore, we offer complete systems to automate production machines by employing our feedback control systems.

Otto Stotz, the founder of our company, started in 1952 with the distribution of measuring and control systems. We have since enhanced our engineering, manufacturing and service expertise to become a global supplier to customers who demand the best.

Today, we are the leaders in gauging technology. Numerous patents within the last few years have solidified our position as trendsetter for new measuring technology and pneumatic measuring systems.

In 2010, Advanced Machine & Engineering Company signed a distributor agreement with Stotz Feinmesstechnik GmbH to be the exclusive North American distributor for Stotz products. We are centrally located in Rockford, Illinois.

Your projects are in the good hands of our experienced and qualified engineers.

***Quality Products for over 50 years.***



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