

MPA 104

Modular Process Analyser 104

Right for today, ready for tomorrow.

The MPA 104 is modularly designed monitoring system, allowing you to choose the exact configuration needed for your application. Its digital interface modules for signal and sensor data control are easily installed through snap-lock rails in a switch cabinet. This makes it particularly easy to upgrade the system with additional sensors later on.

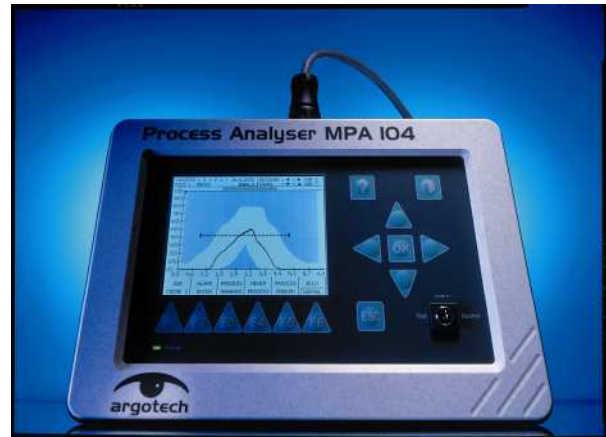
The industrially compatible (IP65) terminal case is linked to the individual modules via CAN Bus circuit. This allows the terminal to be quickly attached to the suitable position via magnets on the back of the case.

Extensive functions are available for the monitoring of cyclic manufacturing processes. The system can monitor up to 12 sensors at the same time, enough for even the most complex of machining processes.

Naturally, the MPA-104 comes with Argotech's user-friendly operating menus and intuitively easy to use soft key operated dialogs. This makes the MPA-104 the right system for most applications today and tomorrow.

MPA-104 can monitor production for:

- Collisions
- Overloads
- Tool Fracture
- Tool Contact
- Product Quality



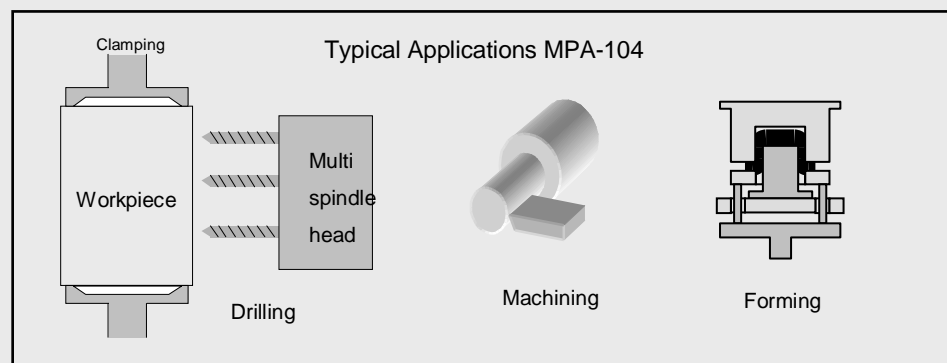
The MPA-104 can monitor up to 12 sensors and can accommodate up to 12 output relays

Machine Data Acquisition

The MPA 104 can optionally be equipped with an integrated **Machine Data Acquisition (MDA)** function. This allows the precise causes of downtimes to be determined. If a number of monitoring systems are networked with one another via the integrated CAN Bus interface, the data of the individual machines can be displayed in comprehensive form, evaluated and computed on a PC with the help of the **Production Organizer** software packet.

Typical monitoring applications MPA-104:

- Metal Machining: drilling, turning, milling, grinding
- In particular: Multi-spindle lathes, machining centres, 2 to 6-axis lathes, automatic rotary cycle machines (also with CNC units)



Data connection

Data can be exchanged with a connected Notebook for the diagnosis of individual processes, for documentation and in order to create backups of the taught-in monitoring data. To this end, the **ProcessViewer** software tool provides additional interfaces to Microsoft™ products.

Sensor technologies and applications

Which sensors should be used depends on a variety of conditions, which should be considered on an individual basis. This table is meant as a guideline indication of which applications generally are more suitable for which sensors.

○ = can work

✓ = good fit

		Sensors				
		Electrical Power	Acoustic Emission	Vibration	Force	Strain
Types of Processing	Turning	✓ ✓	✓ ✓	○	✓ ✓	✓
	Grinding	○	✓ ✓	✓	✓	✓
	Drilling	✓ ✓	✓ ✓	○	○	○
	Stamping		✓		✓ ✓	✓ ✓
	Die-casting		✓ ✓	✓ ✓	✓	✓
	Rotary-cycle machine	✓	✓ ✓	✓	○	○
	Multi-spindle lathe		✓ ✓	✓	✓ ✓	✓ ✓
	Machining center	✓	✓	○	✓	○
Monitoring	Missing tool	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
	Tool fracture	✓	✓ ✓	✓	✓ ✓	✓ ✓
	Tool wear	✓ ✓	✓	✓	✓ ✓	✓
	Chatter	○	✓ ✓	○	○	○
	Collision	✓	✓ ✓	✓ ✓	✓	✓
	Contact	○	✓ ✓	✓ ✓	✓	✓
Optimisation	Tool life	✓ ✓	✓	○	✓	✓
	Quality	✓	✓	○	✓	○
	Process	✓	○	✓	✓	✓
	Reduction of air grinding	○	✓ ✓	✓ ✓	○	○

Electrical Power: Using the electrical power measurement, one should consider a convenient relationship between the physical quantity of electric drives and the work process. Reduction gears can influence the value of the signal level.

Acoustic Emission: The measurement is more sensitive the closer the sensor is installed to the processing point. Joining areas (such as screw connections) between the processing point and the sensor reduce the acoustic signals.

Vibration: Comparable to acoustic emissions (low frequency range)

Force / Strain: Forces and strain within machine components are dependent on the structure of the machine and should be interpreted separately in each case.