

## Universal program controller

# PRO 96-1

**Programmer –  
Data logger – Ethernet**

The powerful and versatile new program controller PRO 96-1 is the first product that has been developed jointly by PMA Prozeß- und Maschinen-Automation GmbH in Kassel and the affiliated companies in the UK.

Installed in a 96 mm DIN housing, this compact single-loop controller can be fitted with a wide range of input/output modules, communication interfaces, and other options, enabling it to be adapted precisely to the individual requirements encountered in thermal processes.

Of particular interest are the clear user instructions for operating the programmer functions (including a realtime clock), with graphical displays for monitoring the control profile and output signal(s) in furnace and laboratory applications.

The data logger function permits recording intervals to be freely selected, whereby the recorded values are accessible via the COM ports or the front panel USB socket in the form of a \*.csv file for further processing. Moreover, all stored data can be displayed as trend curves and as alarm lists in plain text for on-site analysis.

For the first time in a device of this class, the PRO 96-1 has an optional

Ethernet port (RJ45 socket) with Modbus TCP protocol as an alternative for the previous RS 485 Modbus RTU standard. This makes the program controller suitable for network integration.

Depending on operating conditions, the "day&night" display changes the background or the display colour from red to green, or inverse, which not only highlights e.g. alarm conditions, but also visualizes specific operating steps clearly and unambiguously.

The user can scroll through the menus, and ticker texts provide operating notes for increased attention. Two languages are selectable for the plain text messages (currently available are GB, D, F, I, E), whereby switchover is possible during operation. This eliminates the need for tedious leafing through separate operating instructions during configuration and operation in order to obtain situation-related information. Also provided for the first time by PMA is a Setup Wizard for valuable and time-saving support during initial commissioning on site.

Of course, also the PRO 96-1 can be configured and parametrized in advance by means of PMA's standard BlueControl® tool and a laptop or PC, as well as conducting extensive bench testing in the simulation mode. For this, the unit is fitted with a separate engineering port in the front panel.

Also very practical is the possibility of downloading/uploading the configuration data from a USB memory stick, which can be plugged into the front USB socket that is designed



for rough industrial environments. The same USB socket can be used to save the data logger files onto a USB stick.

A special rubber seal provides IP 65 protection (splash water) for the entire controller front.

For its control functions, the PRO 96-1 uses the established and proven PID algorithm. It can be configured as a continuous or switching controller (2 or 3-point for heating/cooling), whereby the outputs are available and combinable from various universal standard, logic, relay or triac control signals. Another special feature is the robust and automatic self-tuning function during first commissioning. Several additional analog and digital inputs as well as transmitter supply signals put a finishing touch to the unit.

Data sheet PRO 96-1

Item 01

## Safety temperature limiter



# STB 55

**Safety first!**

The safety temperature limiter STB 55 is used wherever thermal processes need to be monitored, and the plant switched into a safe condition in case of a fault.

These devices are certified in accordance with EN 61508 SIL2 ("Functional safety of electrical / electronic / programmable electronic safety-related systems"), and are approved according to DIN EN 14597 SIL2 (replaces DIN 3440 "Temperature control and limiting devices for heat generating systems").

Consequently, they can be used as:

- Safety temperature limiters (STB)

- Waste gas temperature limiters (ASTB)
- Safety temperature monitors (STW).

If the permissible temperature limit is reached or if a fault occurs in the monitoring equipment, the STB 55 switches off immediately. The alarm contact is activated, a 24 VDC signal is generated, the "ALARM" LED in the front panel and the background lighting of the display light up, and the cause of the alarm appears in the display in plain text. Similarly, the display provides supporting texts for "commissioning without a manual".

Data sheet STB 55

Item 02

Wir kriegen's geregelt  
Close the loop with PMA



# Novelties

## UL certificate for KS 1x8

Also the KS 108, KS 118, KS 128 family has now received UL and cUL approval, which is essential for sales in North America. The "UL Online Certifications Directory" also lists all the other PMA controllers and modules with their corresponding certificates. We will be pleased to send a link or the certificate on request.



Data sheet KS 1x8

Item 03

## GOST approval for PMA equipment

GOST certification, which is required for export to the Russian Federation, has been granted for PMA's Blue-Port® controller range (KS 4x-1, KS 5x-1, and KS 9x-1 families, DIGITAL 280-1).



Data sheet KS XX

Item 04

(Please look for the selected device.)

## New HRC version

New features and new formats



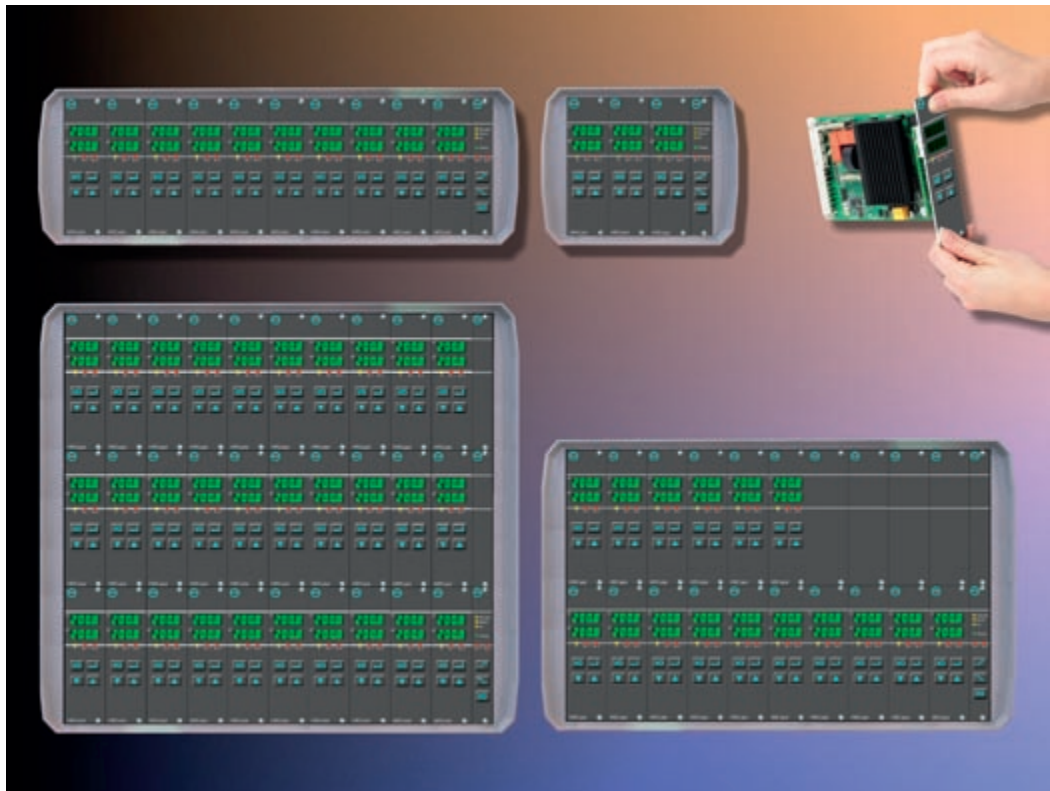
Data sheet HRCvario<sub>mini</sub>

Item 05

## Hot at work in the group!

# Hot-runner controller HRCslot

Single-loop controllers grouped in a new housing



At the FAKUMA 2008, the HRCslot hot-runner controllers will be presented in several new housing versions.

Thanks to the compact plug-in design, a standard 19-inch 3HU housing now accepts up to 10 controllers – two more than with PMA's previous KS 50 HRC.

Also available are dual and triple-height housings for up to 20 or 30 plug-in controllers. In order to accommodate fewer zone controllers for smaller hot-runner systems, PMA will also exhibit shorter versions for max. three controllers or 7 and 14 zones.

Common to all versions is the narrow keypad at the right, containing the operating keys and status displays for the respective controller group. For example, pressing a single key triggers "load enable" and "load disconnect" for starting/stopping the heating, the boost function (freeing blocked nozzles), and the switchover to standby during production pauses.

Additional displays provide visual indications of the common alarm status and the signals to the machine (injection enable, etc.). Moreover, unused controllers can be disabled individually and very easily via the front panel keys. Alarms monitor

the individual temperature tolerance bands, heating currents, and possible SSR short circuits.

In case of a sensor break, the controller switches to emergency operation, which prevents an immediate switch-off of the affected zone and provides the time for a fast repair.

In short, the units provide a functionality that previously was reserved for systems with display screen.

With the HRCslot, PMA offers a controller that automatically controls both slow-response blocks as well as very fast nozzles/cartridges.

Thanks to its service-friendly design – plug-in module complete with 15 A power output and motherboard technology – the HRCslot is more cost-effective than conventional single-loop controllers both in terms of initial purchase and in operation, because there is no need for internal wiring.

Especially for OEM applications, PMA offers the possibility of individually designed front panels, i.e. to match the customer's corporate identity.

Data sheet HRCslot

Item 06

## Individuality – breaking new ground with PMA! Innovations for the exclusive range 5th controller generation for tiled stoves

Also in the private sector, high priority is given to optimum use of regenerative energy when used for domestic heating during winter. Equally important hereby are convenient operation of the heating plant, and well-matched integration in the living environment.

Tiled stoves meet these demands to a very high degree, as they are available in a wide variety of designs to suit the personal tastes of the inhabitants. Brunner GmbH is an established manufacturer of heating inserts for high-quality tiled stoves, and has a long tradition of efficiency and innovation. In close co-operation with Brunner GmbH during many years, PMA has developed special



control systems (EOS/EOR) that always include the latest technical advances. Meanwhile, many thousands of control systems have been delivered and installed worldwide, whose exceptional features have resulted in highly satisfied customers.

Now, in the 5th generation, great attention has been given to a timeless design that meets the requirements for today's individual living ambience. The control panel appears as a glass plate seemingly "floating" in front of the wall without visible attachments. Moreover, no snap-

action buttons or similar pressure-sensitive switches are used; instead, simply touching the panel keys is sufficient. The graphical LC display underlines the unit's claim of fitting harmoniously into modern interiors. The compact electronics are fitted in a standard circular housing for mounting in a pattress.

A complete re-development was required to achieve this compact design and mounting solution.

Brunner tiled stoves	Item 07
Exclusive series solution	Item 08

## The **KS 108** in worldwide use!



Here is a selection of the numerous application areas from all over the world in which the KS 108 is used:

- Grain silos / tank farms with multi-zone temperature monitoring; hot water generation with bio gas/ natural gas heating; heat treatment line with multi-zone furnace for coating engine parts
- Bio-reactor (fermenter); textile printing machine; boilers in combined heat & power plants; ceramic ovens; annealing furnaces for automotive components; weighing technology, batching systems; energy distribution computer (calorific value) for gas plants; machine automation; control of the atmosphere in glass tanks; debinding of ceramic pre-forms; corrosion test stand

- Modernization of electrically heated chamber furnace; air-conditioning in production buildings; diffusion furnaces in the semiconductor industry; vacuum furnace for heat treatment of sensor modules; air-conditioning of premises; plant for producing bio diesel
- Heat treatment of aircraft components; melting lacquers and plastics from metals in a recycling plant; extruder modernization
- Datalogger; crystal growing for solar panels; bakery installation; granulate drier; dairy produce ...

Data sheet KS 108 easy	Item 09
Data sheet KS 108 flexible	Item 10

# Topical information

## PMA's new DVD 10 / 2008 is now available



The new DVD-ROM not only contains practically all the pages of our website and the corresponding links, detailed data sheets, and operating instructions, but also all Engineering Tools, which you can install

for immediate use as demo versions. Order your personal free DVD-ROM now!

New PMA DVD

Item 11

## More than a PLC - varioPLC



Automation solution based on varioPLC.

Two components, one aim:

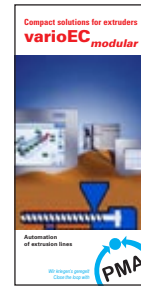
varioPLC is the central element of an automation system and with varioDISP you can choose the most suitable display.

More about all features in the brand-new flyer and data sheet.

Flyer varioPLC

Item 12

## Automation of extrusion lines



Compact solutions for standard machines with varioECmodular. The hardware is tailored for extruder applications. Freely configurable extruder functions via "Application Designer" - simple and individual applications. Operation is practice-oriented with large or small display screens.

Flyer varioECmodular

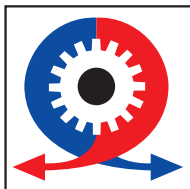
Item 13

## Exhibitions - People - New Products...



Survey of all exhibition participations: <http://www.pma-online.de/en/fairs/index.html>

MSV Brunn 2008  
Brno, Czech Republic  
15.-19. Sept. 2008  
Profess



MSV 2008

MSR-Spezialmesse  
Südwest

Frankenthal, 17. Sept. 2008



Friedrichshafen  
14.-18.10.2008



SPS/IPC/DRIVES/  
Elektrische  
Automatisierung  
Systeme und Komponenten  
Fachmesse & Kongress  
25.-27. Nov. 2008  
Nürnberg

Vienna-tec  
Internationale Fachmesse  
für die Industrie  
Wien, Österreich, 07.-10. Okt. 2008

MSR-Spezialmesse  
Rhein-Ruhr

Oberhausen, 05. Nov. 2008



Automation 2008 FarExpo  
Saint Petersburg, Russia  
9.-12. Dez. 2008  
BG electronic e.k.



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