

## Multi-Channel-Controlsystem FP16



### 1. Introduction

The Multi-Channel-Controlsystem **FP16** is the result of consequent design to create an intelligent substation for high - level control systems.

The unit is designed to meet the high requirements of machine industry. Increasing numbers of control zones, flexibility in extension, bus capability in conjunction with customised control platforms and cost-saving aspects forced to develop this extremely good valued product.

Fields of usage: temperature control, measure and display functions in injection molding, extruders, large blow moulding machines, presses etc.

### 2. Description

Each unit is basically equipped with a power-supply board and a processor board. Four additional slots are available for application specific use. The Multi-Channel-Controlsystem **FP16** will serve a maximum of 32 analog inputs and 64 digital outputs and the summarizing alarm outputs for HI-, LO-, deviation and system alarms. Optional plug-in boards allow special configurations, e. g. multi-channel temperature controller, with or without heating circuit

monitoring, process data monitoring and storage or multi purpose digital / analog configured unit.

The unit has no operator elements. Configuration and data transfer are handled via a bus capable RS485 interface. Up to max. 30 units **FP16** can be connected to one RS485 bus to extend the system. Different bus protocols are available.

One **FP16** unit can handle 32 independent control loops with separate heating and cooling outputs. All outputs are isolated from internal power supply. Total cycle time for 32 zones is 1 sec. This shows, that the Multi-Channel-Controlsystem **FP16** is able to handle very fast control application, e. g. hot-channel-torpedos..

In addition to the fast cycle time there are more remarkable features. A FUZZY-logic based self-parameterisation supports fast and easy system configuration using several application related actions. For slow controls (e.g. extruders) the tuning method „start-up-trial“ for the configuration of heating parameters and the method „drop-set-test“ for the configuration of cooling parameters is included. For fast controls (e.g. hot channel applications) the method „oscillation-test“ is programmed.

This differentiating parameterisation technique, based on FUZZY-structures, which will put in question occasionally the PID-control and use as result of the optimizing calculations a PI-control, eventually in conjunction with a start-up ramp function, is the result of many years of application oriented engineering and development.

Other standard features are: separate adjustment of the switching cycles for heating and cooling outputs; each channel may be selected to operate in continuous or injection cooling; intelligent sensor short circuit detection (thermo-couples) and monitoring of the switching devices.

Separate regulation rate of limits for heating / cooling, manual / automatic mode selection, ramp configurations, diagnosis program, optional heating circuit monitoring and more options are available.

Typical features of the Multi-Channel-Controlsystem **FP16** is the bus compatible electrically isolated RS485 interface, that is used to operate and to configure the system. As mentioned before, this is done via the RS485 bus. The controlling device can be a higher level PC or host computer. For service, maintenance or configuration the HG16 hand held terminal is available. For operation via PC, **FELLER ENGINEERING** offers FECON, a universal PC-based process control system.

As the unit is designed without keypad and display, it's concept is to be mounted "hidden" in a control cabinet. Special mounting brackets allow mounting directly to the cabinet's backplane. This will reduce wiring. All connections are made via plug-in screw terminals.

### **3. Price / Volume**

For price information please refer to the valid price pages for series ..16 products.

### **4. Delivery**

Basic units are available within 2-3 weeks after receipt of a purchase order. For delivery of special units please contact our office.

### **5. Dimension / Weight**

W 240 x H 140 x D 150 mm,

Weight depending on configuration 2 to 3 kg.