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Rev. 0701

## Control Unit

# Digital+

### Application

The Digital+ electronics is the enhancement of our approved digital electronics. New equipment as digital filters, the possibility to fade out the product effect, the memory capacity for three products and an improved display provide for a superior sensitivity. The electronics is used where high sensitivity, reliability and operator convenience are required - in the plastics as well as in the recycling industry.



Control unit Digital+

### Function

The device constantly controls the correct functioning of the electronics. The adjustment to the connected sensor is done fully automatically. This allows maintenance-free operation. Drift actions caused by thermal fluctuation or deterioration are eliminated. Expensive calibration and production downtimes can be avoided. The sensor signals are dressed using modern DDS-technology. A 32-Bit processor system analyses the dressed data in real time and filters out product effects and interferences reliably. The device can be controlled via several in- and outputs. Piloting and supply of signal transmitters, sensors and plants are directly effected via the control system. Contrary to the Digital electronics the Digital+ electronics enables the user to operate conveyor plants etc. with our BD- or TU-sensors.



## Equipment and specific characteristics

### Easy handling

The device is operated easily. Generally the user only varies the sensitivity and teaches-in the parameters for the product effect. There are no complex menus. Further modulations are possible via an access code. Thus the function of filters and peripheral units can be adjusted. All values are already preset. Normally changes are not necessary.

### Product memory & product fade-out

If the test material has a product effect, this can be faded out by the electronics. The effect is taught-in and saved with pushing a button. There is a memory capacity for three products. Each memory space can be addressed fast via a button. Three LEDs signalise if there is a product loaded and which product it is. New products are taught-in fully automatically by pushing a button. Complex adjustments are redundant.

### Operation & maintenance

The device is entirely maintenance-free. An integrated self-diagnosis function immediately signalises malfunctions. All components are placed on a modern multilayer circuit board. The connections are completely pluggable. By this it is possible to change the circuit board in only a few minutes on-site. Due to modern technology and the latest semiconductor technology the energy consumption is at only 10W. This reduces costs and protects

the environment.

### Designs

According to the application the customer chooses among two different housings. For normal environmental conditions the powdered metal housing in protection class IP 54 is appropriate. For applications with rough environmental conditions a stainless steel housing with protection class IP 65 is available.

### Control system

The electronics is equipped with several in- and outputs. Thus the external peripheral units can be piloted and important signals can be collected via the sensor. The device can be integrated in conveyor lines or separators without the need of modifications.



## Technical data

Mechanical data	
Dimensions IP54	B x H x T: 200 x 200 x 80 mm
Dimensions IP65	B x H x T: 200 x 300 x 80 mm
Weight	3 kg
Handling	
Keyboard	6 Keys (2x arrow; enter; 3x Keys for products)
Display	2 x 20 characters; illuminated (blue)
Conditions of use	
Storage temperature	-10°C .. 60°C
Operating temperature	0°C .. 50°C
Protection class	IP 65 / IP 54
Supply voltage	85 - 264 VAC; 50/60Hz
Power consumption	typ. 10W; max. 40W
Electrical connection	3m connecting cable; L1,N,PE; 1,5 mm <sup>2</sup>
Sensitivity	
	(see sensor or device)
Interfaces	
Sensor - transmitter	50 Ohm; overload- & short-circuit proof (50 .. 650 kHz)
Sensor - receiver	HDC-IQ - receiver with sensor-readjustment
Digitale inputs	4 piece; optical isolated; $V_{IL} = -5 .. 1,5V$ ; $V_{IH} = 6 .. 50V$ multifunction-key ejector-guard
Digitale outputs	6 piece; high-side/open-drain; max. 200mA; overload- & short-circuit proof transducer ejector device state
Serial interface	2x (mode of operation on request)
Relay	2x change-over contact; 250V, 1A; function eligible
Voltage output	24VDC; stabilized, overload- & short-circuit proof; max. 2,5W for external components
Ordering information	
Digital+ control unit ferros housing IP 54	16730000025
Digital+ control unit stainless steel IP 65	16730000024

## Dimensions

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