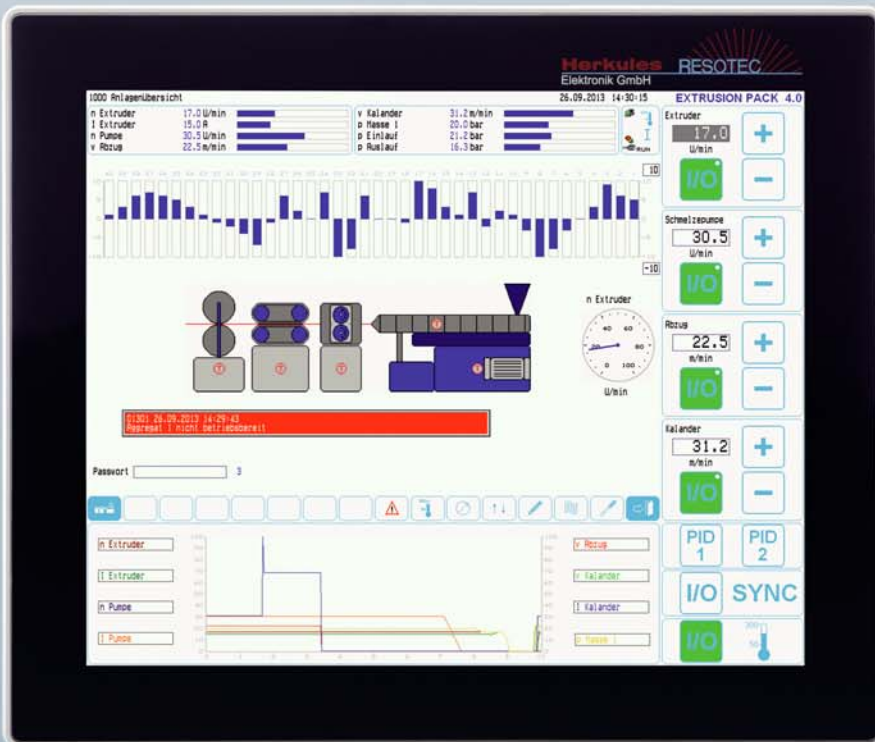**Herkules** RESOTEC
Elektronik GmbH

EXTRUSION PACK® 4.0

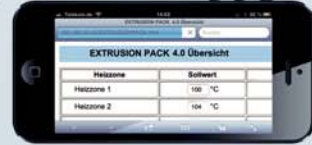Scalable module concept for automation of extruder and extrusion lines

• **Display / Visualization**
• **Operate**
• **Control**
• **Communicate**

EXTRUSION PACK® 4.0

Automation devices for extrusion in scaleable dimension ready for production
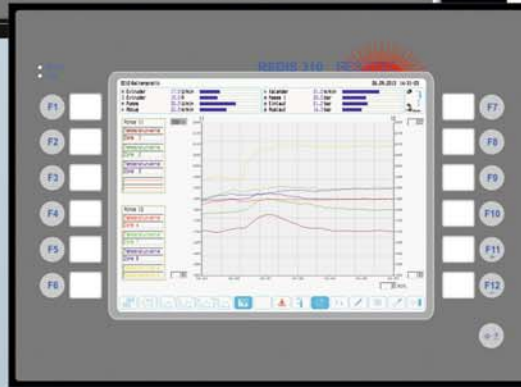
LAN

REDIS Web-Server
The web-server of EXTRUSION PACK® provides the access to fixed data of the display. Easily structured HTML-pages can be programmed, which will be displayed via a standard web browser on other computers, tablets or smartphones.
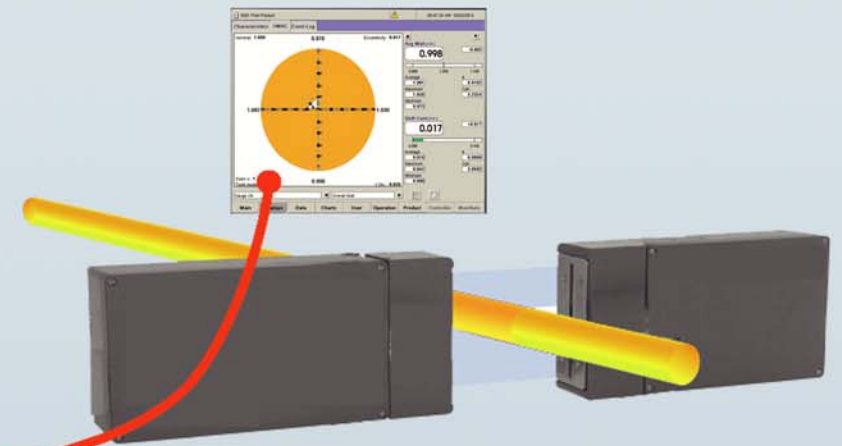
REDIS FTP Server
The FTP Server of EXTRUSION PACK® provides necessary data for central storage or further processing for example in MES-Applications.

Configuring instead of programming
The extrusion software runs on any system. The user only has to set its individual machine parameters and the system is running. Intensive programming work is not required. System configuration and machine parameters are stored in recipes.

Visualization of other system components
Via VNC REDIS is able to view contents of displays of other machine or plant components and according the ability of these components it is also able to operate. All information are central available.

CODESYS

Integrated PLC
The software of EXTRUSION PACK® is progammed with the commercially available CODESYS™ soft PLC according to IEC-61131-3. If it is required to realize additional functions, these can be easily added by CODESYS™. Experienced users will be familiar immediately with the FUP, AWL, ST, KOP and CFC programming languages. Via the optional digital inputs and outputs of REDIS 2019, simple control tasks can be realized without additional hardware.

Three display sizes selectable

Process data recording
Supported by single and mean value protocols, process data are recorded and assigned to associated production order. Storage of values are realized in csv-format, later transfer to QM systems is possible. Stored protocols are accessible via USB or FTP.
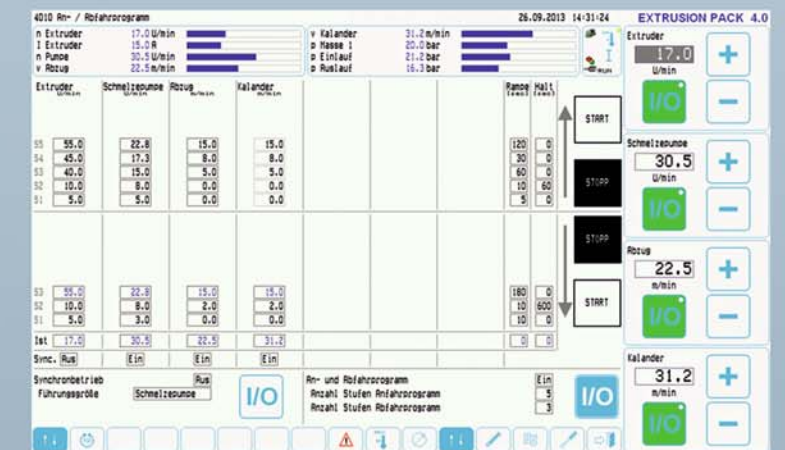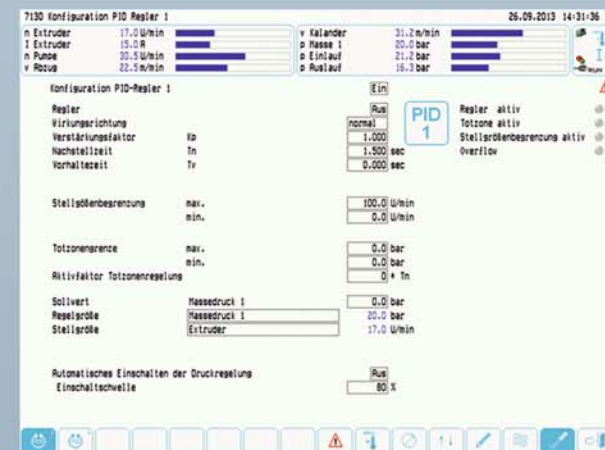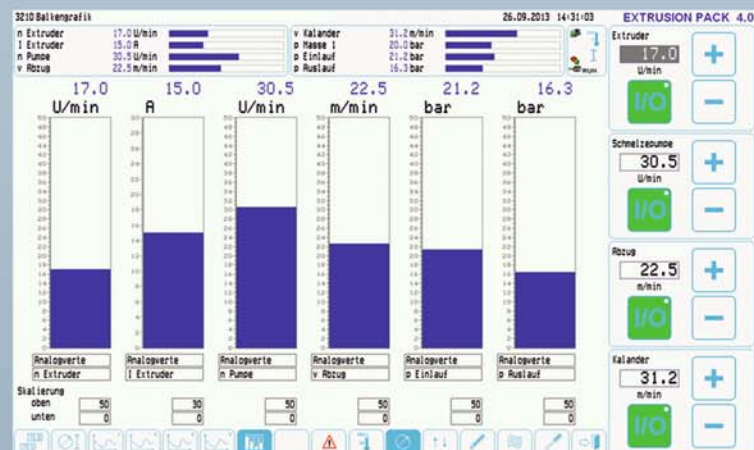
Trend Graphs
Trend graphs allow a quick overview on the machine behavior. The process values with the corresponding periods are configurable. The recorded data can be archived on the hard copy function.

Configure control
The control loops can be quickly and easily configured. Both the effect of direction and system input / output variables are freely chosen and routed to the analog inputs / outputs. The once evaluated control parameters can be saved as recipe.

Start up
Use of ramp up- und shut-down function enables a reproducible machine behavior. In combination with synchronous operation lower set-up and start-up times will be achieved. After end of start up, system can automatically enter into controlled operation.

Configure extrusion plant in a few steps...

Operating units

REDIS 310 10,4"

REDIS 420 15,1"

REDIS 2019 19"

+

Extrusion control

8 up to 32 heating zones

| 8 | 4 | 4 | 4 | 4 | 4 | 4 |

2 up to 4 drives

| 2 M | 2 M |

+

Manual operator modules

Additional module combination optional composed of

- double rotary pulse encoders
- eightfold function key moduls, 3-colour

Scope of operation EXTRUSION PACK® 4.0

Features	Standard	Option	Project specific
Access via password input (fix)	■	☐	tbd
Manual operator modules 1 to 8	-	■ 1-3	> 3
Configurable analog inputs	2	☐	> 2
Number of heating / cooling zones	8	■ 12-32	>32
Number of variable speed drives	2	■ 4	> 4
Number of switch functions (digital drives)	4	☐	> 4
Configurable alarms with adjustable reaction	4	☐	> 4
Temperature reduction	■	☐	-
Configurable PID control loops	4	☐	> 4
Synchronous operation	■	☐	-
Ramp up and shut down procedure	-	■	-
Process data logger	■	-	-
Trend grafics	■	-	-
Long term trend	-	☐	tbd
Fast trends	-	☐	tbd
Hardcopy via USB	■	-	-
Online manual	■	-	-
Error messages	■	-	-
Error message history	■	-	-
Logbook	-	☐	tbd
VNC-Server	-	☐	tbd
VNC-Client (Robots/metering/MES/…….)	-	☐	tbd
Connection via OPC-Server (MyOPC)	-	☐	tbd
Connection via MX-Sheet	-	☐	tbd
Webserver with standard HTML pages	-	☐	tbd
Melt pump	-	■	-
Remote maintenance	-	☐	tbd
Languages (DE/GDR standard)	■	☐	tbd
View energy consumption	-	☐	tbd
Length measurement	-	☐	tbd
Saw control	-	☐	tbd
Volumetric metering	-	☐	tbd
Access via USB stick	-	☐	tbd
Connection of drives via filed bus systems	-	☐	tbd
Filter	-	☐	tbd

■ included in delivery   ☐ Modifications/extension are possible, have to defined