

P-NET

New P-NET Applications in Textiles, Steel & Food

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I. Overview

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Some new P-NET Applications in Germany within the last 12 months

- Textiles: Yarn finishing at HOERAUF (monitoring, controlling)
- Steel: Manufacturing of flanges at ZAPP (monitoring, controlling)
- Food: Nuts roasting at KRAFT JACOBS SUCHARD (monitoring, controlling)
- Ships: Ship automation at TILSE (controlling)
- Domestic appliances: Manufacturing of dish washers at BOSCH-SIEMENS (monitoring)

plus further installations of well-known applications like milk/oil trucks, tank monitoring, climate control etc. (part of them with modified system structures and/or components)

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Tasks of the Local Society related to new P-NET Applications

free (= primary task of Local Society):

- first contact (conferences, web site, mailings)
- general information about P-NET (info package, phone/fax, E-mail)
- first assistance in planning the system (phone/fax, E-mail, at office)

at cost (sponsored by b-plus):

- 1- or 2-day P-NET training courses
- 1- or 2-day P-NET implementation courses

**II. First Application Example:
Yarn finishing at HOERAUF**

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Process:

Finishing of yarns for carpets by heating and moistening

Task:

Monitoring temperatures, humidities, machine data
& controlling elementary machine cycles & data base management

P-NET Solution:

- Pt-100 with P-NET interface (Bartec)
- PD 3221, PD 3240, PD 3920/VIGO (PD)
- Software: PC under Windows-NT, within PD 3221 (b-plus)

Software Structure on PC:

- VIGO
- LabVIEW (HMI, graphics, controlling)

The image displays two software interfaces related to a PVIS (Process Variable Interface) system.

Top Interface: PVIS - GVA - HEAT SETTING - SUESSEN Set

This interface shows a control panel with the following elements:

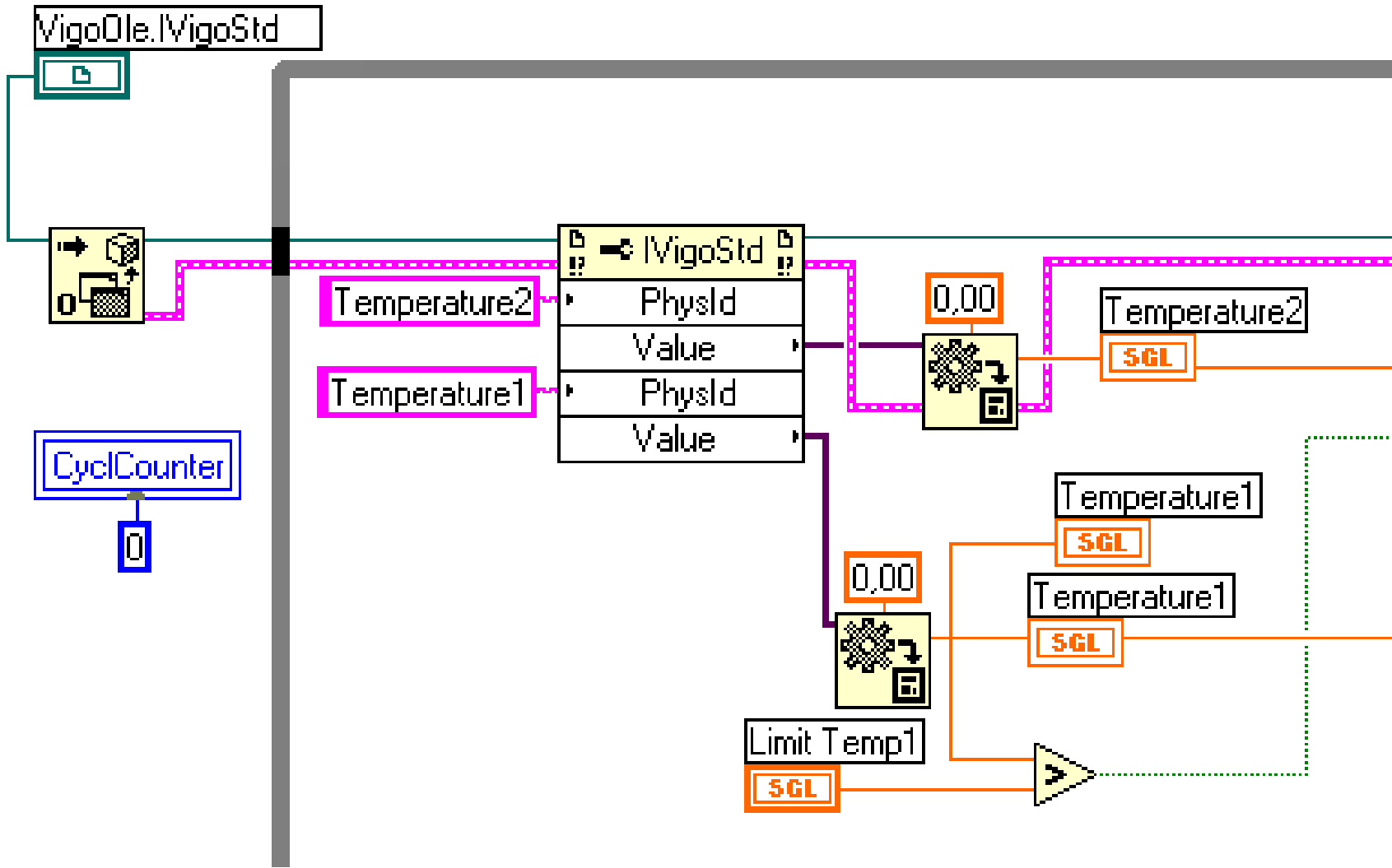
- Menu:** File, Edit, Operate, Project, Windows, Help.
- Buttons:** PROGRAMM BEENDEN, SYSTEMFREIGABE, BETRIEB, ALARMQUIT, AUS, PROTOKOLL.
- Controls:** A set of 12 digital input buttons (1-6 for K2, 1-6 for K1) and a 'Betrieb' button with a red flame icon.
- Display:** 'aktuelle Charge: alles'.
- Process Parameters:**
 - Messpunkt 2 (Left):** Taupunkt (91.0, 0.0, 0.1, 87.0), Druck (1600, 0, 800), Ventilstellung (80, 0, 30), Dampftemp (130.0, 0.0, 110.0).
 - Messpunkt 1 (Right):** Taupunkt (91.0, 0.0, 0.1, 87.0), Druck (1600, 125, 800), Ventilstellung (80, 6, 29), Dampftemp (130.0, 109.0).
- Speeds:** Bandgeschwindigkeit (4.4 m/min) and Ganggeschwindigkeit (2 m/min).
- Log:** A list of status and situation protocol entries dated 23.02.99.

Bottom Interface: VIGO 4.0 User: Supervisor

This is a MIB browser window showing the following structure:

- Global identifier:** PVIS_M3:UPL_IL_2.Analog_In_1
- Tree Structure:**
 - GVA
 - PVIS_M1
 - PVIS_M0
 - PVIS_M3
 - UPL_IL_1
 - TE1
 - UPL_IL_1
 - UPL_IL_2
 - UPL_IL_2
 - Service
 - Digital_IO_1
 - Digital_IO_2
 - Digital_IO_3
 - Digital_IO_4
 - Digital_IO_5
 - Digital_IO_6
 - CommonIO
 - Analog_In_1
 - AnalogIn
 - HighLevel
 - LowLevel
 - ChConfig
 - Enablebit
 - Functions
 - Ref_A
 - Ref_B
 - FullScale

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**III. Second Application Example:
Manufacturing of flanges at ZAPP**

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Process:

Forging flanges by melting steel, founding into forms and cooling

Task:

Monitoring temperatures during melting, founding and after cooling & data base management

P-NET Solution:

- IR-pyrometers with P-NET interface (Bartec)
- PD 3221, PD 3120, PD 3920/VIGO (PD)
- Software: PC under Windows-NT, within PD 3221 (b-plus)

Software Structure on PC:

- VIGO
- MS-Access including VBA (data base, configuration forms)
- LabVIEW (HMI, graphics)
- MS-C++ (special subroutines)

aktuelle Anzeige von: Hammer 1

ALTE DATEN WÄHLEN

Los-Nr. 98-11-103-1 Rohlings-Maß 180
Schmelzen-Nr. 81476A Artikel-Bez. 400/2633 ISO alls
Werkstoff-Nr. 4571 Startzeitpunkt 04.02.99 / 12:58:28

Station: 1 2 3 4 5 6 7
wartet
teilbelegt
voll belegt
Stoerung

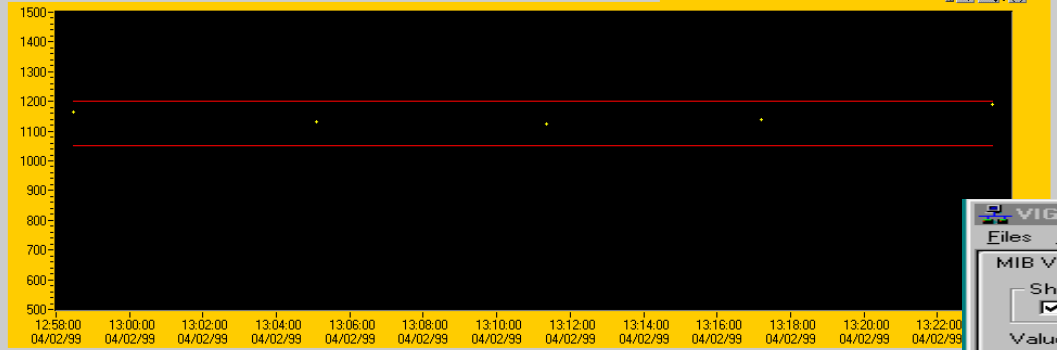
KOMMENTAR
SOLL 45
GUT 5
SCHLECHT 0

Losnummer	Artikelbezeichnung
"Hand"	
98-11-103-1	400/2633 ISO alls
"leer"	"leer"
"leer"	"leer"
"leer"	"leer"

LOS ZUWEISEN

Abschrecktemperatur Reset Diagramme

Warmformgebungstemperatur



VIGO 4.0 User: Supervisor

Files Show Help

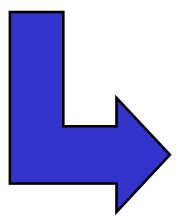
MIB View Workspace MIB Edit

Show Nodes Virtual Elements Value

Value: No simple value for this variable

Global identifier
PVIS_M3:UPL_IL_2.Analog_In_1

- GVA
 - PVIS_M1
 - PVIS_M0
 - PVIS_M3
 - UPL_L1
 - TE1
 - UPL_IL_1
 - UPL_L2
 - UPL_IL_2
 - Service
 - Digital_IO_1
 - Digital_IO_2
 - Digital_IO_3
 - Digital_IO_4
 - Digital_IO_5
 - Digital_IO_6
 - CommonIO
 - Analog_In_1
 - AnalogIn
 - HighLevel
 - LowLevel
 - ChConfig
 - Enablebit
 - Functions
 - Ref_A
 - Ref_B
 - FullScale



**IV. Third Application Example:
Nuts roasting at KRAFT JACOBS SUCHARD**

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Process:

Nuts roasting for chocolate production by heating

Task:

Monitoring temperatures and CO₂ & controlling automatic nuts transport & storing of quality data (sterilization data)

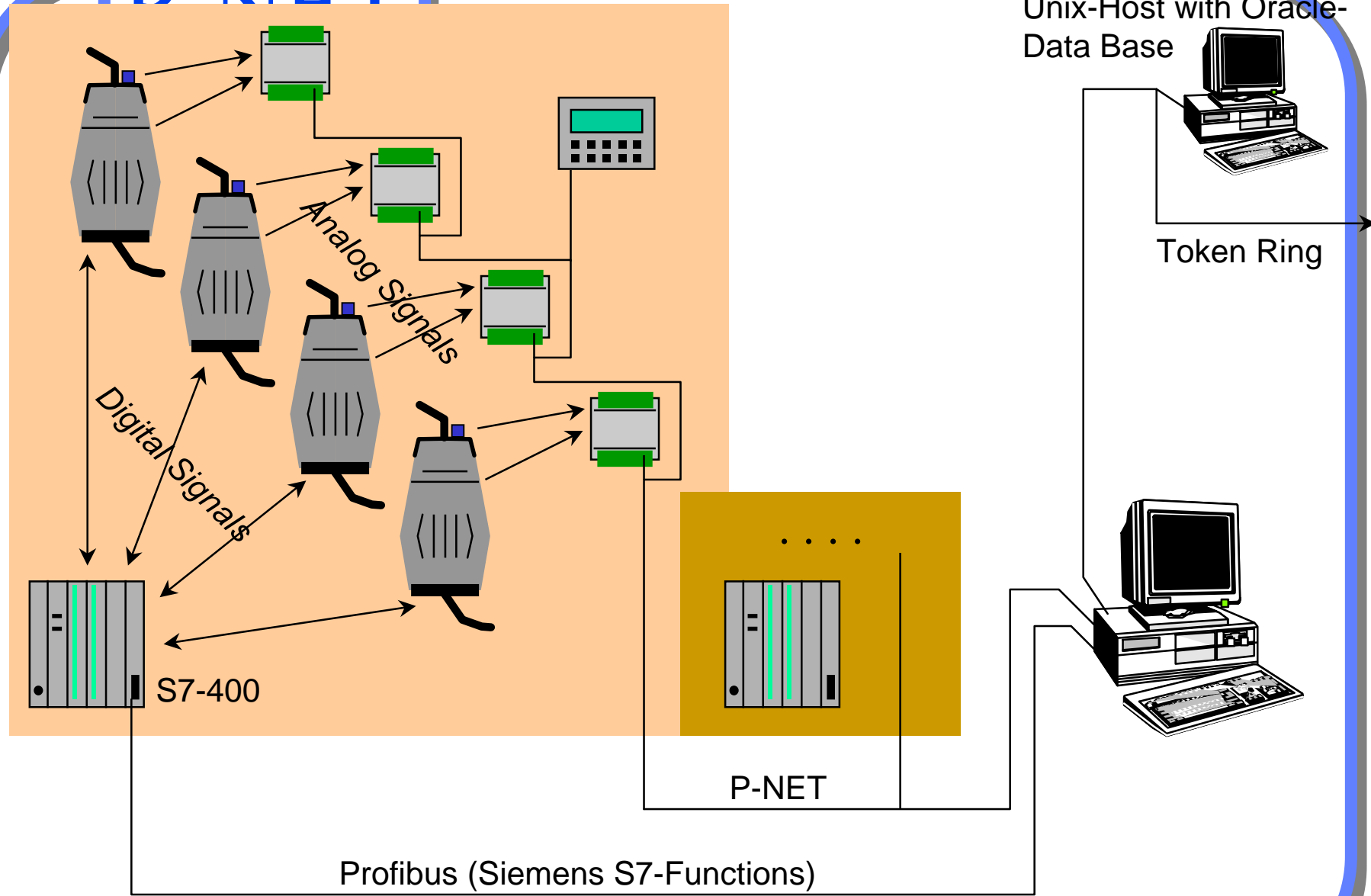
P-NET Solution:

- PD 3240, PD 3920/VIGO (PD)
- Software: PC under Windows-NT (b-plus)

Software Structure on PC:

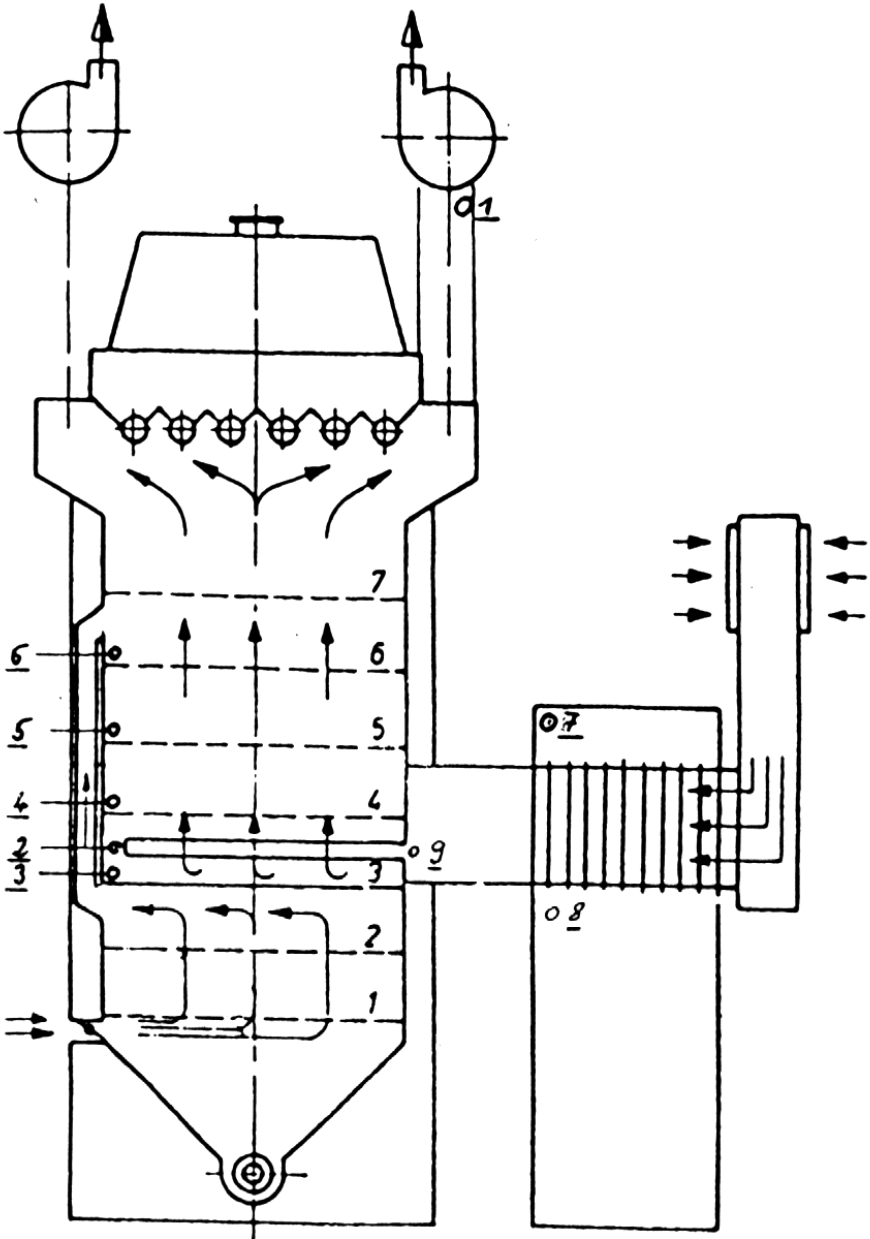
- VIGO
- Siemens-S7 functions together with Windows-NT-driver from b-plus
- InTouch (HMI, graphics, storing); older version with LabVIEW/Excel
- MS-C++ (special subroutines for controlling)

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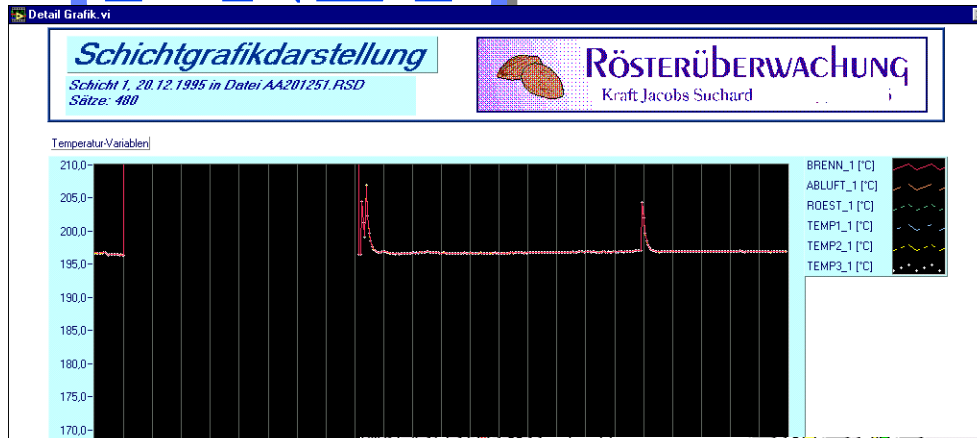


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Roasting Machine:



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Drucken <F1>

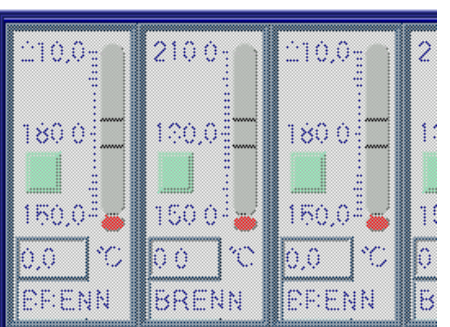
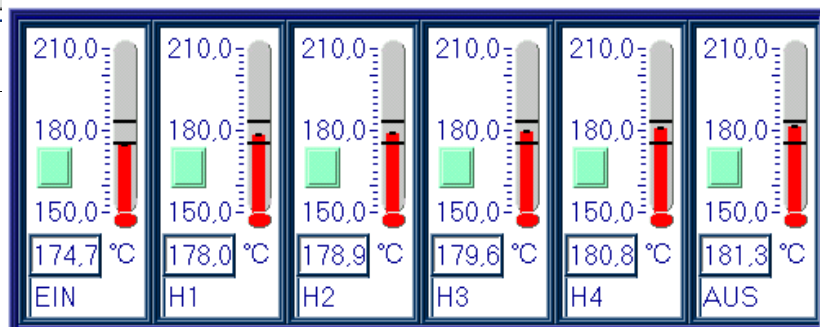
Röster-Numm
weitschalter

Aufzeichnungsprogramm

STOP (ESC)

Alte Schicht
<POS1>

RÖSTERÜB
Kraft Jacobs Such



Röster 1

Detail - Grafik <F1>

Tabelle <SHIFT-F1>

Detail - Grafik <



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CCP-Check

CCP-Nr.: RO 21 Röster 1 b-plus, Deggendorf/Germany 1998

LOG-Wert: 1.58

5.0 Minuten

00:00:00 +5 +10 +15

Auto OK LOG-Wert noch nicht err. Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

CCP-Nr.: RO 22 Röster 2 b-plus, Deggendorf/Germany 1998

LOG-Wert: 3.92

10.6 Minuten

00:00:00 +5 +10 +15

Auto OK LOG-Wert erreicht Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

CCP-Nr.: RO 23 Röster 3 b-plus, Deggendorf/Germany 1998

LOG-Wert: 4.20

7.3 Minuten

00:00:00 +5 +10 +15

Manu OK LOG-Wert erreicht Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

CCP-Nr.: RO 24 Röster 4 b-plus, Deggendorf/Germany 1998

LOG-Wert: 2.21

25.4 Minuten

00:00:00 +15 +30 +45 +60

Auto OK LOG-Wert noch nicht err. Hordenantrieb aus

Kommentarfeld öffnen 11:47:45 07.02.1998 Menü öffnen

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Setup

Temperatur Calibration (-2.0 to +2.0 °C)

<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>
<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>	<input type="text" value="0,0"/>

Outflow Checkp. 2 Checkp. Inflow

Dewpoint Calibration K2 °C K1

Ventil Calibration K2 % K1

Change User Password

New User Password

Repeat Password

OK

Change Supervisor

Change User

Change User

OK

Conveyorspeed
OFF ON

Yarnspeed
OFF ON

Basicspeed
OFF ON

Jumpspeed
OFF ON

Alarmdelay (0-9 sec)

Chamber System
1 2

PNET-Setup Exit