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Date	Name	SHEET
10.05.05	H. RINDLISB.	01 02 03 04 05 06 07 08 09 10 11 15 16 17 18 19 20 21

REVISION

NOTES: N=NEW, C=CANCELLED, ☐ NOT EXISTING

KOSAIR 2004 KOSBOOST 2004

ANTISURGE CONTROL

AIR LIQUIDE™				
No D'AFFAIRE JOB NUMBER	FMT FMT	GROUPE GROUP	No NBR	Rev Rindlisbacher H
KOSICE 50-3023-01	A4	611 612		

14.07.2005 Rindlisbacher H 14.07.2005

ANTISURGE CONTROL	COVERSHEET	Date 10.05.2005		MAN TURBO	4-837 017 468	SHT OF- SEE SHEET 1	KOSAIR 2004 KOSBOOST 2004
		Name H. RINDLISB.	Cont. G. CUENAT				

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TAG-NO.		DESCRIPTION	MANUFACTURER	TYPE	DELIVERED BY	ASSEMBLY	REF.	COMMENTS	REV.
FIC11077, FIC16074		UNIVERSAL CONTROLLER	ABB	PROTRONIC 550	MTM	CONTROL PANEL			
PT11041,		PRESSURE TRANSMITTER							
PT16007, PT16045		PRESSURE TRANSMITTER							
FT11074, FT16007		DIFFERENTIAL PRESSURE TRANSMITTER							
TE16007, TE16045		RESISTANCE THERMOMETER (PT100)							
GC11074, FV16074		E/P-CONVERTER							
FV11074, FV16074		ANTISURGE VALVE							
									</

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FIC 11077

PROTRONIC 550

POWER SUPPLY INPUT/OUTPUT BASE UNIT

L	N	PE
230VAC	0V	

1	2	3
+21VDC	+24V ext	B1001

4
B1002

5
B1003

9
B1004

7
0V

8	9
AI01 RTD	AI01 RTD

10	11	12
+AI01	-AI01	0V

13	14
+AI02	-AI02

15	16
+A001	-A001

+24 VDC

0 VDC

24 VDC

POWER SUPPLY

230 VAC

POWER SUPPLY

PANEL

FIELD / CUSTOMER CONTROL

70.1

70.2

66.1

66.2

4-20mA

JB



GC 11074
E/P-CONVERTER
BLOW-OFF VALVE

HS 11077.2

CONTACT

CLOSED FOR RESET
SHIFTED RESPONSE LINE

HS 11077.1

OPEN FOR UNLOAD
CLOSED FOR LOAD

ANTISURGE
CONTROL

WIRING
BASIC UNIT

Date 10.05.2005
Name H. RINDLISB.
Cont. G. CUEVAT



4-837 017 468

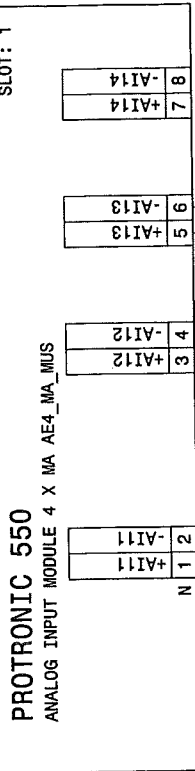
SHT 06
OF: SEE
SHEET 1

KOSAIR 2004

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FIC 11077



4-20 mA

4-20 mA

4-20 mA

PANEL

FIELD / CUSTOMER CONTROL

JB

FT 11074
DIFFERENTIAL
PRESSURE

PIT 11041
DISCHARGE
PRESSURE

HIC 11077
MIN BLOW
OFF VALVE
OPENING
(DCS)

ANALOG INPUT MODUL 4 X MA AE4_MA_MUS
JUMPER SETTINGS:

A) WITHOUT TRANSMITTER SUPPLY

0/2...10V

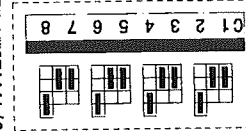
0/4...20mA WITHOUT TRANSMITTER SUPPLY

B) WITH TRANSMITTER SUPPLY

TRANSMITTER SUPPLY WITHOUT FSK RESISTOR

TRANSMITTER SUPPLY WITH FSK RESISTOR

ACTUAL JUMPER SETTINGS:
0/4...20mA WITH TRANSMITTER SUPPLY



ANTISURGE
CONTROL

WIRING
ANALOG MODULES

Date 10.05.2005
Name H. RINDLISB.
Cont: G. CUENAT



4-837 017 468

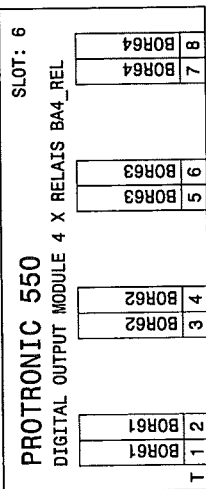
SHT 07
OF: SEE
SHEET 1

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FIC 11077



PANEL

FIELD / CUSTOMER CONTROL

YL 11077.2 YL 11077.3 YL 11077.1

ALARM ALARM ALARM
I/O CONTROLLER RESPONSE LINE
FAILURE FAILURE SHIFTED
(DCS) (DCS) (DCS)

0 1 2 3 4 5 6 7 8 9

ANTISURGE
CONTROL

WIRING
DIGITAL MODULES

Date 10.05.2005
Name H. RINDLISB.
Cont. G. CUEMAT



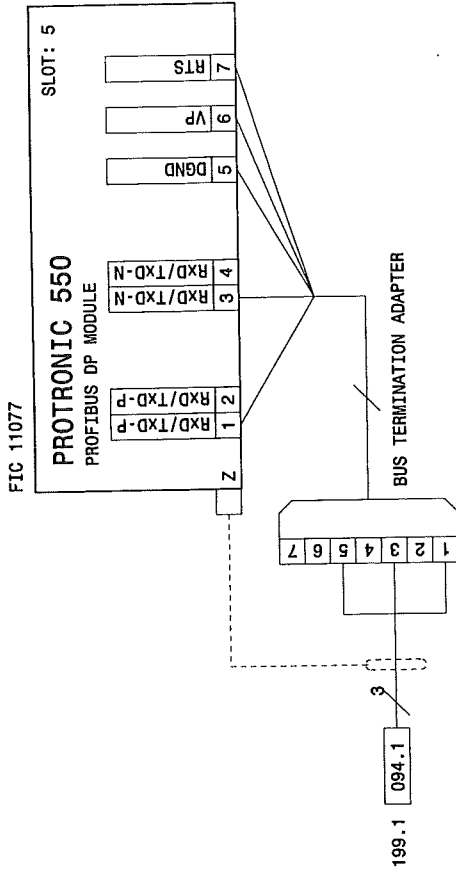
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SHT 08
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SHEET 1

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KOSAIR 2004

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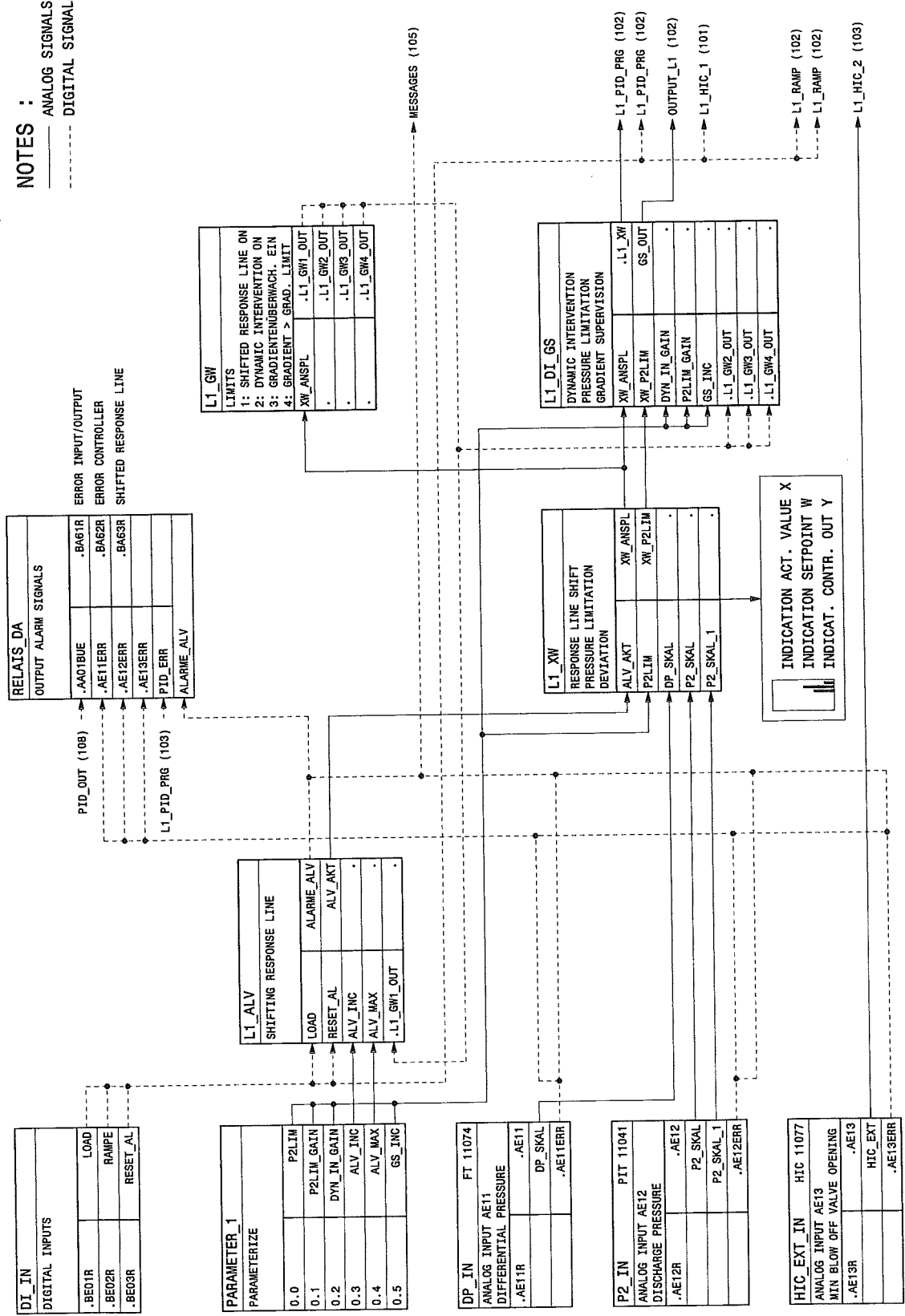
WIRING
INTERFACE MODULES

ANTISURGE
CONTROL

R:\...\7100175

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NOTES :
ANALOG SIGNALS
DIGITAL SIGNALS



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NOTES :

- ANALOG SIGNALS
- - - DIGITAL SIGNAL

INDICATION FRONT-PANEL	
1: CONTROLLER RELEASE	
2: LOAD ACTIV	
3: not used	
4: not used	
5: PRESSURE LIMITATION ON	
6: GRADIENT SUPERVISION ON	

L1_XW (95) - - -
L1_GW (97) - - -

MESSAGES	
FRONT-PANEL MESSAGES	
.AE11ERR (91) - - -	ERR_FT_11074
.AE12ERR (91) - - -	ERR_FT_11041
.AE13ERR (91) - - -	ERR_HIC_11077
ALARME_ALV (93) - - -	SHIFTED_R_LINE
ERR_CONTROLLER	
ERR_FY_1110	

DI_IN (91) - - -

L1_DI_GS (97)

L1_PARA	
PID-PARAMETER CONTROL	
.L1_KP_STEUER	
.L1_TN_STEUER	
.L1_TV_STEUER	
.L1_YO_STEUER	

L1_PID_PRG	
PI-CONTROLLER INTERNAL PARAMETER:	
KP, TN	
.L1_Y_TRACK	L1_Y_OUT
.L1_XW	PID_ERR
LOAD	
.L1_KP_STEUER	
.L1_TN_STEUER	
.L1_TV_STEUER	
.L1_YO_STEUER	

OUTPUT_L1	
OUTPUT PROCESSING	
L1_Y_OUT	.L1_Y_TRACK
GS_OUT	.L1_Y_OUT2
RAMPE_OUT	
HIC_OUT	

PID_OUT	
ANALOG OUTPUT	
.L1_Y_OUT2	.AA01R
	.AA01BUE

RELAYS_DA (94)
MESSAGES (105)

L1_RAMP	
RAMP GENERATOR INTERNAL PARAMETER:	
RAMP UP, RAMP DOWN	
LOAD	RAMPE_OUT
RAMPE	

L1_HIC_1	
INTEGRATED HAND STATION	
	HIC_INT

L1_HIC_2	
PROCESSING MANUAL SETPOINT	
HIC_INT	HIC_OUT
HIC_EXT	

HIC_EXT_IN (92)

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0 1 2 3 4 5 6 7 8 9

ANTISURGE
CONTROL

WIRING
INTERFACE MODULES

Date	10.05.2005
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Cont.	G. CUEMAT



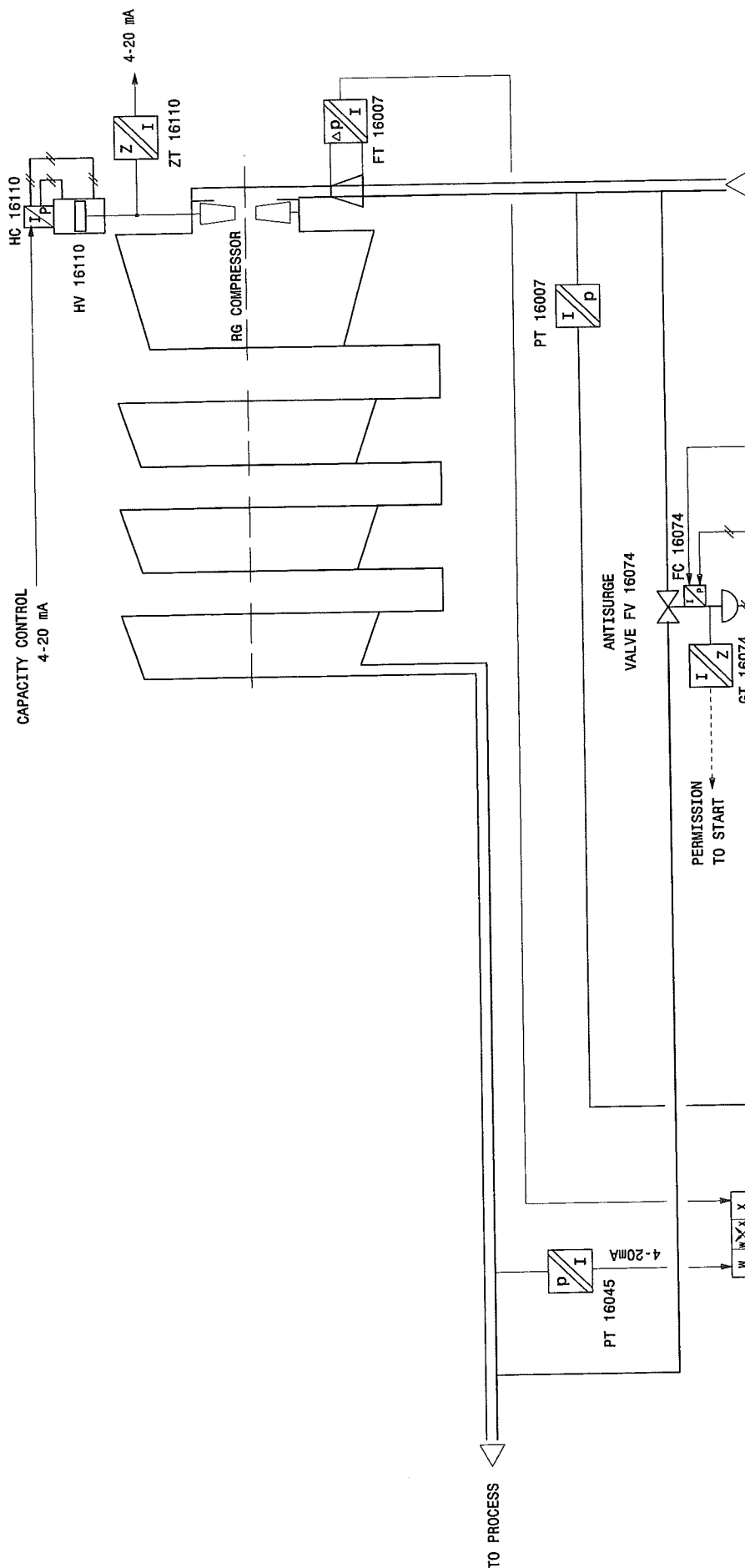
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SHT 11
OF: SEE
SHEET 1

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CAPACITY CONTROL
4-20 mA



SUPPLY LIMITS :
SEE P&I-DIAGRAM

ANTISURGE
CONTROL

CONTROL SYSTEM
PRINCIPLE DIAGRAM

Date	10.05.2005
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SHT 15
OF: SEE
SHEET 1

KOSBOOST 2004

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FIC 16074

PROTRONIC 550

POWER SUPPLY INPUT/OUTPUT BASE UNIT

L	230VAC
N	0V
PE	GND

1	+21VDC
2	+24V ext
3	BI001

4	BI002
---	-------

5	BI003
---	-------

6	BI004
---	-------

7	0V
---	----

8	AI01 RTD
9	AI01 RTD
10	+AI01
11	-AI01
12	0V

13	+AI02
14	-AI02

15	+A001
16	-A001

+24 VDC

0 VDC

24 VDC
POWER SUPPLY

230 VAC

POWER SUPPLY

4-20mA

JB

FC 16074

E/P-CONVERTER
BLOW-OFF VALVE

HS 16074.2

CONTACT
CLOSED FOR RESET
SHIFTED RESPONSE LINE

HS 16074.1

OPEN FOR UNLOAD
CLOSED FOR LOAD

ANTISURGE
CONTROL

WIRING
BASIC UNIT

Date	10.05.2005
Name	H. RINDLISB.
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4-837 017 468

KOSB00ST 2004

SHT 16
OF: SEE
SHEET 1

FIC 16074

PROTRONIC 550

ANALOG INPUT MODULE 4 X MA AE4_MA

SLOT: 1

N	1	2	3	4	5	6	7	8
	+AI11	-AI11	+AI12	-AI12	+AI13	-AI13	+AI14	-AI14

PROTRONIC 550

ANALOG INPUT MODULE 2 X PT AE2_PT_3/4L

SLOT: 3

G	1	2	3	4	5	6	7	8
	AE31	AE31	AE31	AE31	AE32	AE32	AE32	AE32

PANEL FIELD / CUSTOMER CONTROL

ANALOG INPUT MODUL 4 X MA AE4_MA_MUS
JUMPER SETTINGS:

A) WITHOUT TRANSMITTER SUPPLY

0/2...10V

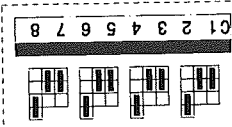
0/4...20mA WITHOUT TRANSMITTER SUPPLY

B) WITH TRANSMITTER SUPPLY

TRANSMITTER SUPPLY WITHOUT FSK RESISTOR

TRANSMITTER SUPPLY WITH FSK RESISTOR

ACTUAL JUMPER SETTINGS:
0/4...20mA WITH TRANSMITTER SUPPLY



TE 16045
DISCHARGE
TEMPERATURE

TE 16007
SUCTION
TEMPERATURE

PT 16007
SUCTION
PRESSURE

HIC 16074
MIN BLOW
OFF VALVE
OPENING
(DCS)

PT 16045
DISCHARGE
PRESSURE

FT 16007
DIFFERENTIAL
PRESSURE

ANTISURGE
CONTROL

WIRING
ANALOG MODULES

Date 10.05.2005
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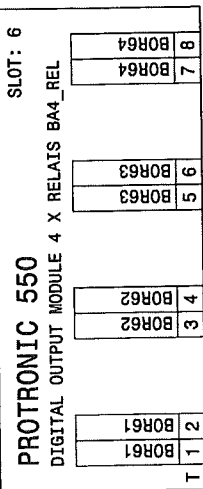


4-837 017 468

SHT 17
OF: SEE
SHEET 1

KOSB00ST 2004

FIC 16074



PANEL

FIELD / CUSTOMER CONTROL

YL 16074.2 YL 16074.3 YL 16074.1

ALARM	ALARM	ALARM
I/O	CONTROLLER RESPONSE LINE	
FAILURE	FAILURE	SHIFTED
(DCS)	(DCS)	(DCS)

ANTISURGE
CONTROL

WIRING
DIGITAL MODULES

Date	10.05.2005
Name	H. RINDLISB.
Cont.	G. CUENAT



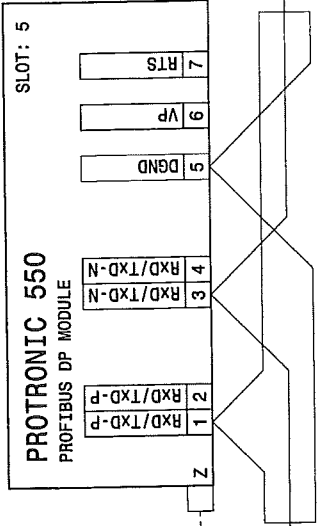
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SHT 18
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FIC 16074



199.1 094.1

PROFIBUS SIGNALS
TO CUSTOMER CONTROL

PANEL

FIELD / CUSTOMER CONTROL

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ANTISURGE
CONTROL

WIRING
INTERFACE MODULES

Date 10.05.2005
Name H. RINDLISB.
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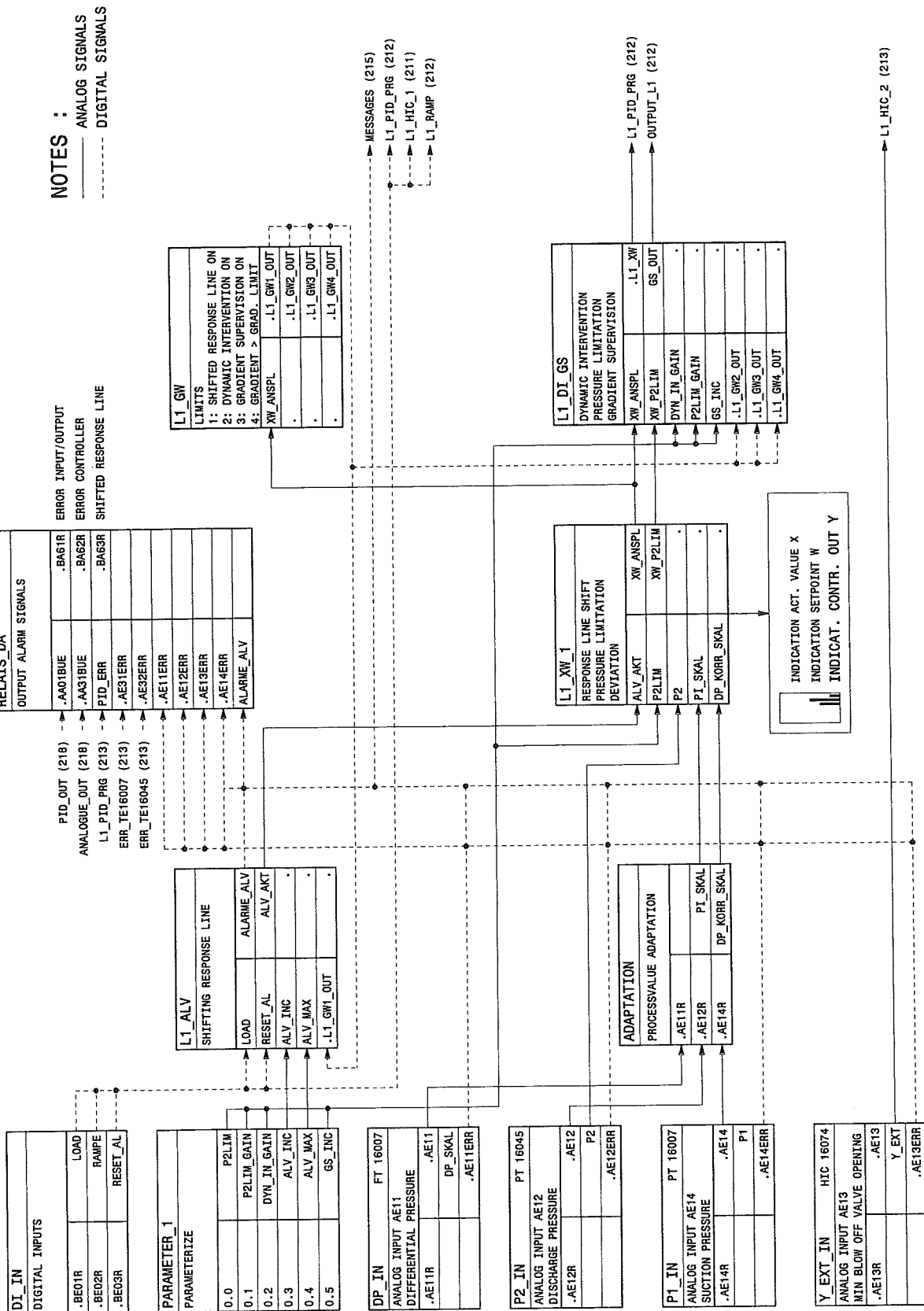


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SHT 19
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SHEET 1

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ANTISURGE
CONTROL

LOGIC BLOCK
DIAGRAM

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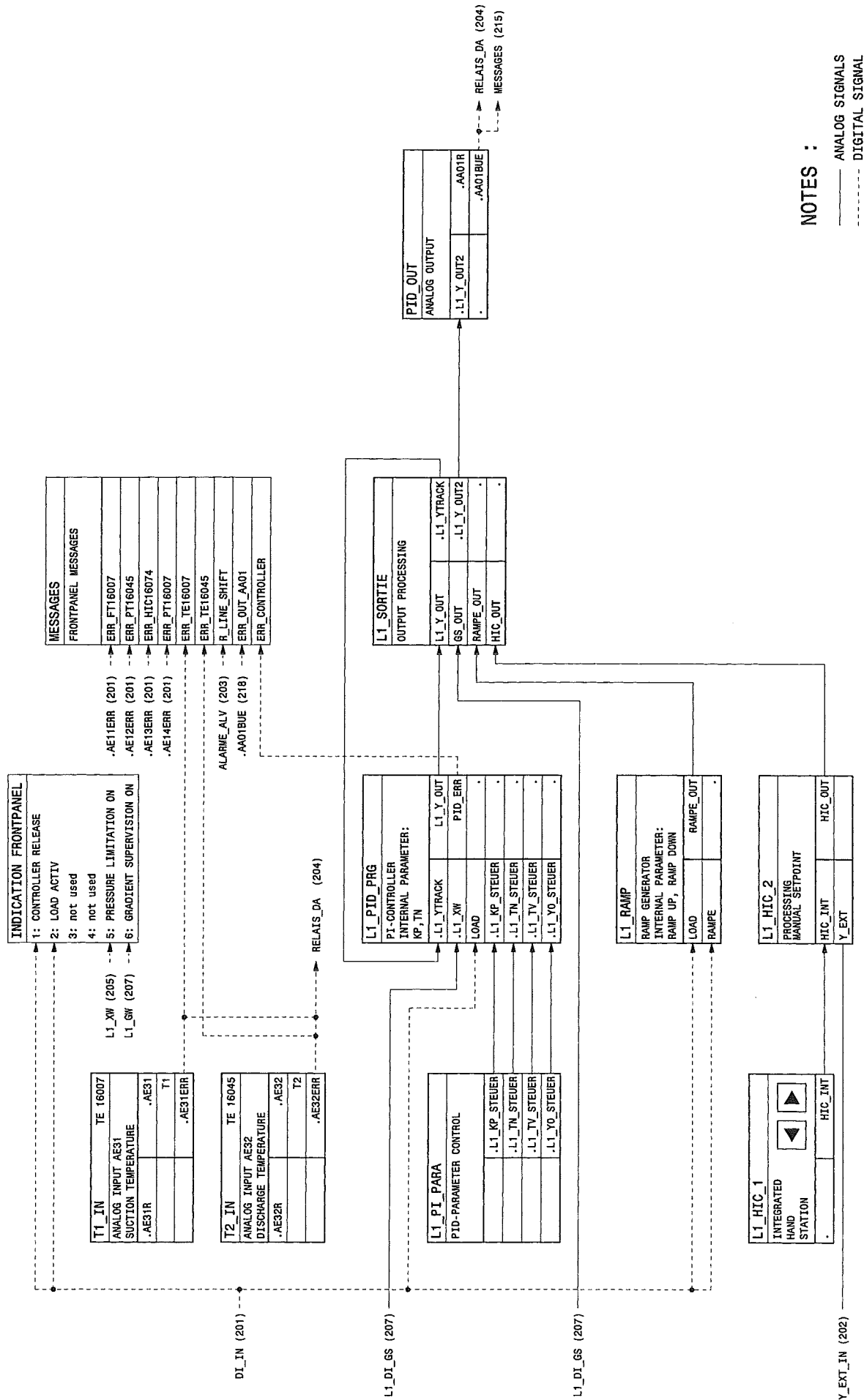


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SHT 20
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SHEET 1

KOSB00ST 2004

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NOTES :
— ANALOG SIGNALS
--- DIGITAL SIGNAL