

IRC5控制器

1. 双柜
2. 单柜
3. 面板式
4. 紧凑型



控制器面板

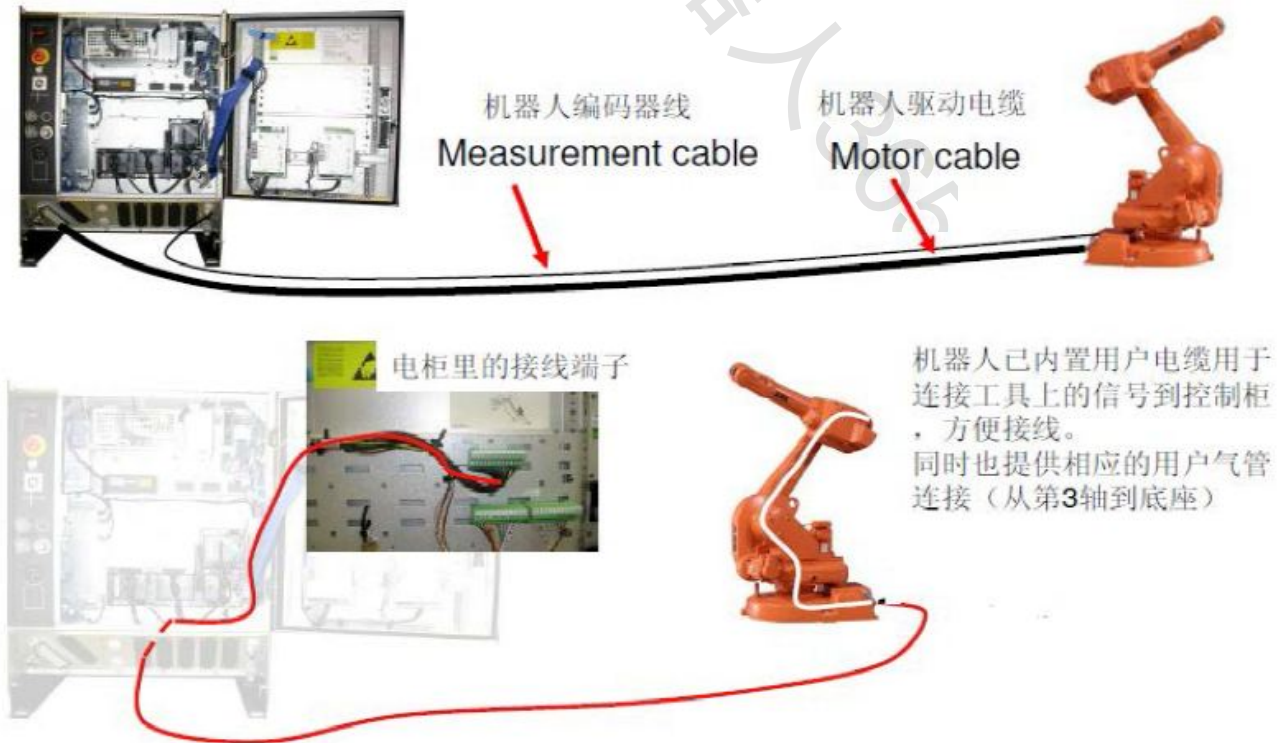


IRC5结构（单柜）



IRC5与本体的连接

在进行控制柜与机器人之间的电缆连接时，请按照电缆接头上的标识进行连接

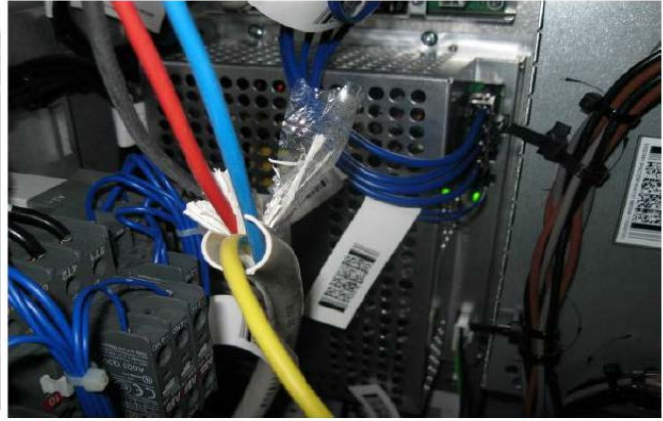


主计算机



相当于电脑的主机，用于存放系统和数据

系统电源DC24V



为控制柜内各模块提供24V直流电源

电源分配板



将系统电源提供的DC24V分配到柜内各模块

电容



充电和放电是电容器的基本功能。此电容用于机器人关闭电源后，保存数据后再断电，相当于延时断电功能。

轴计算机



该计算机不保存数据，机器人本体的零位和机器人当前位置的数据都由轴计算机处理，处理后的数据传送给主计算机。

主驱动单元

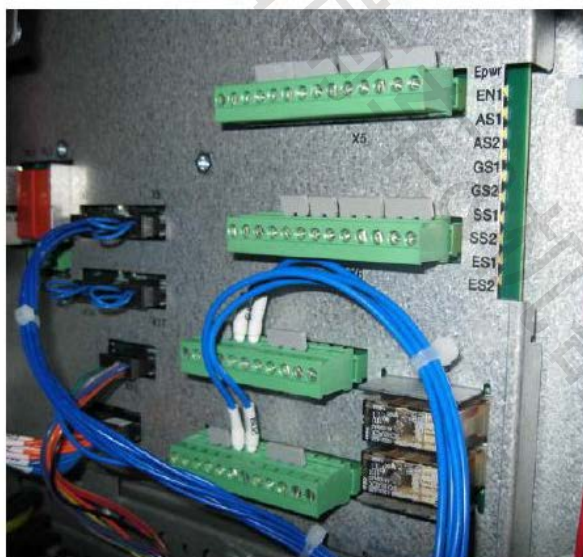


主驱动单元用于驱动机器人各个轴的电机。

控制柜侧编码器接口 机器人本体侧编码器接口



安全控制板



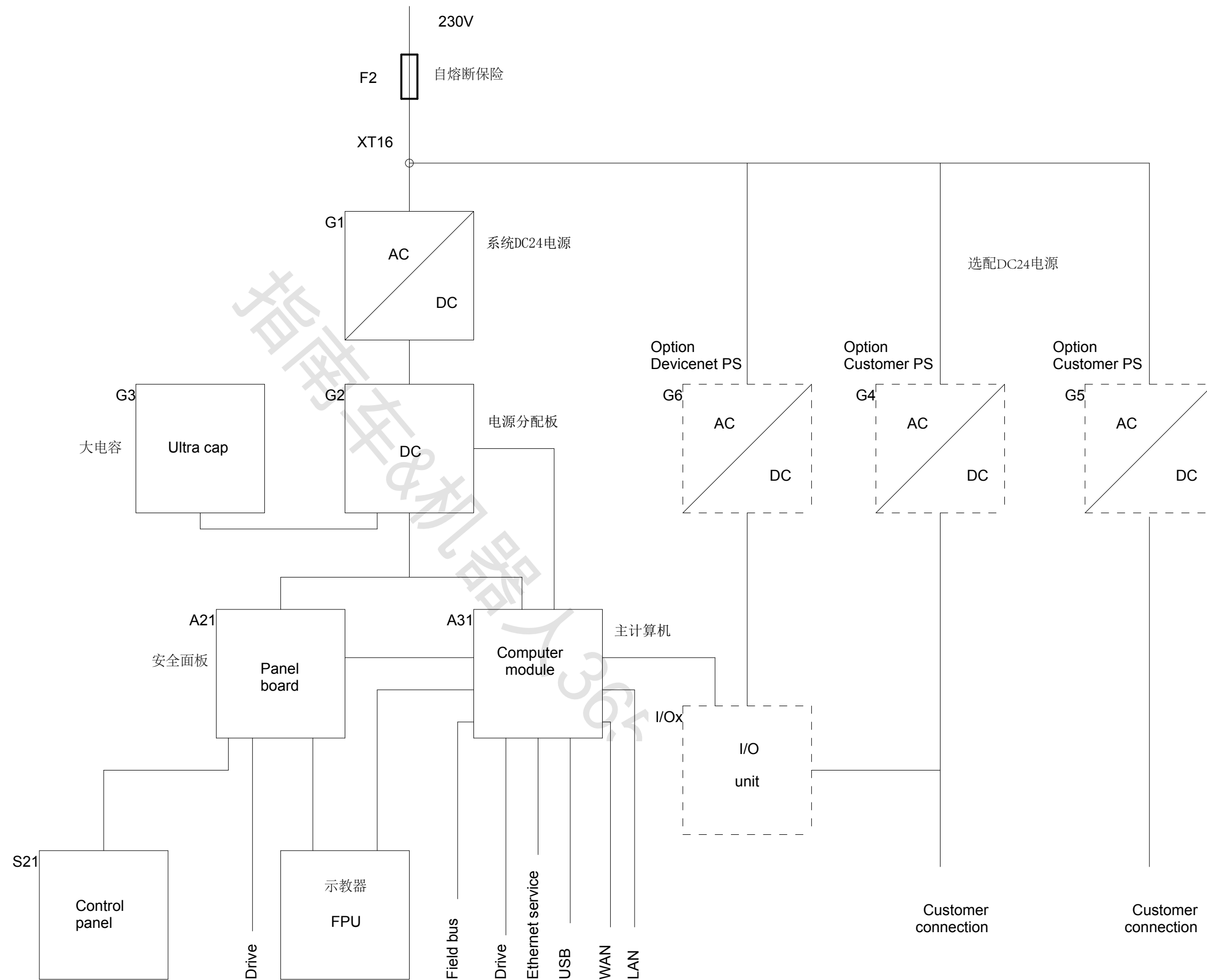
当 AS1 AS2 GS1 GS2 SS1 SS2 ES1 ES2 全亮时，机器人电机才能上电。机器人上电的同时，EN1变亮。

DSQC652 IO单元



IO单元通过Device Net网络下挂在主计算机上，可用于对外围设备的控制和信号的输入。

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:



Lab/Office:
DMRO SE/
PRH

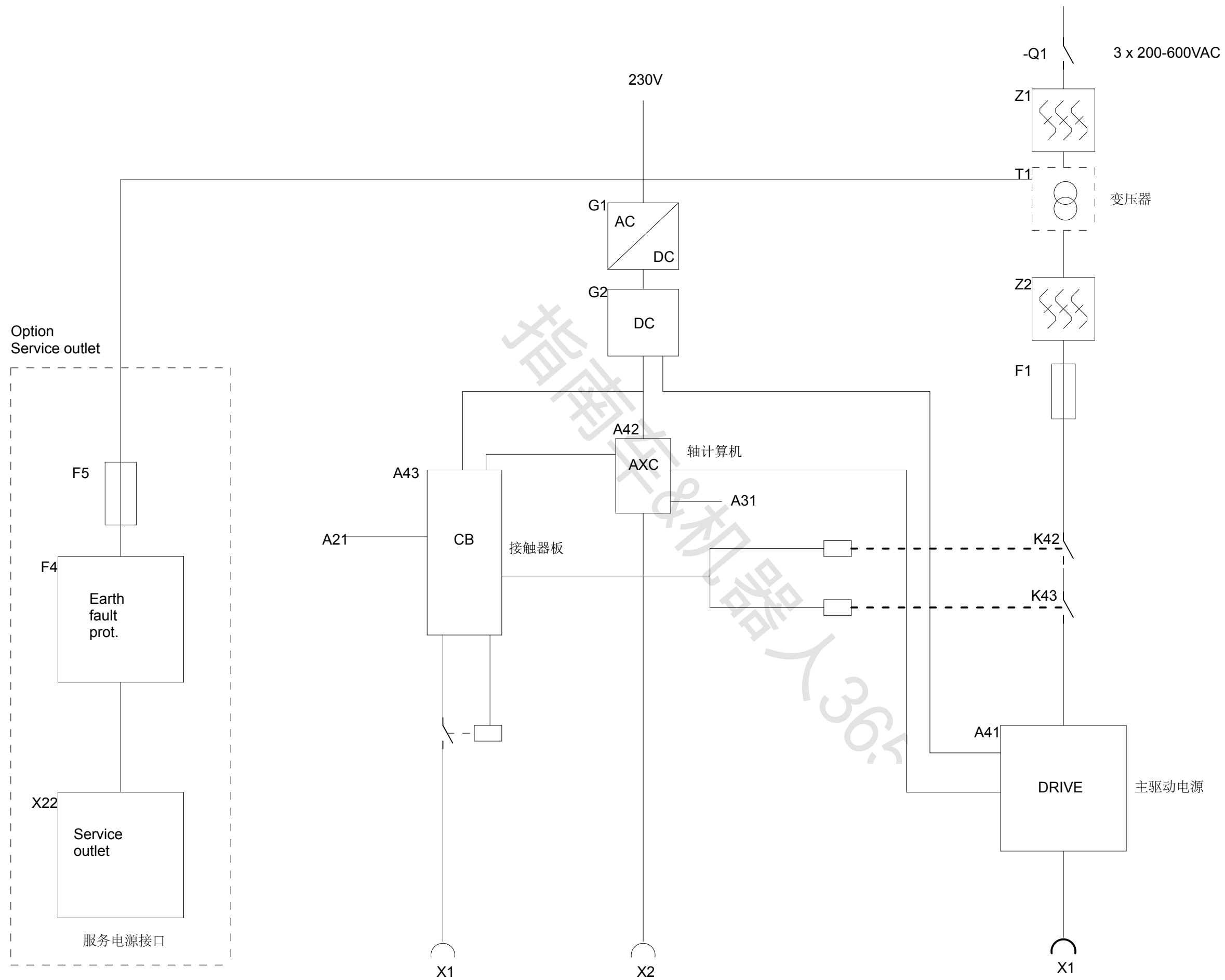
IRC5 DESIGN 14 Rel15.2
BLOCK DIAGRAM CONTROL MODULE

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36

Document no. 3HAC024480-011	Rev. Ind 05	Page 13 Next 14 Total
--------------------------------	----------------	-----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:
 Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36



Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
 BLOCK DIAGRAM SINGLE DRIVE MODULE

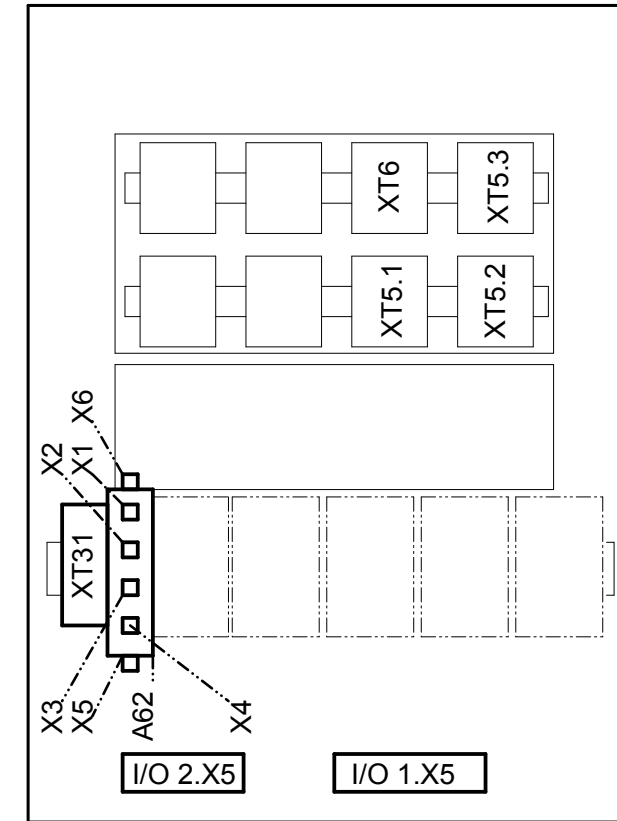
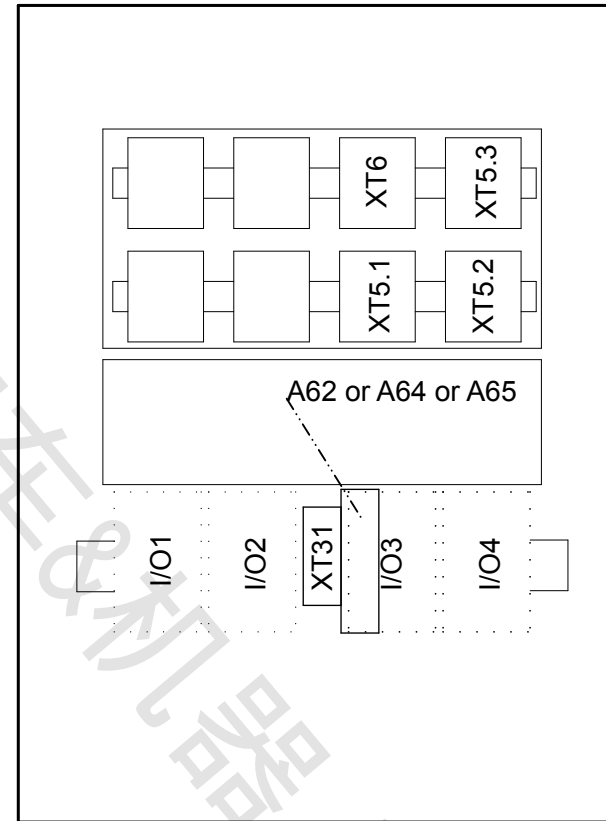
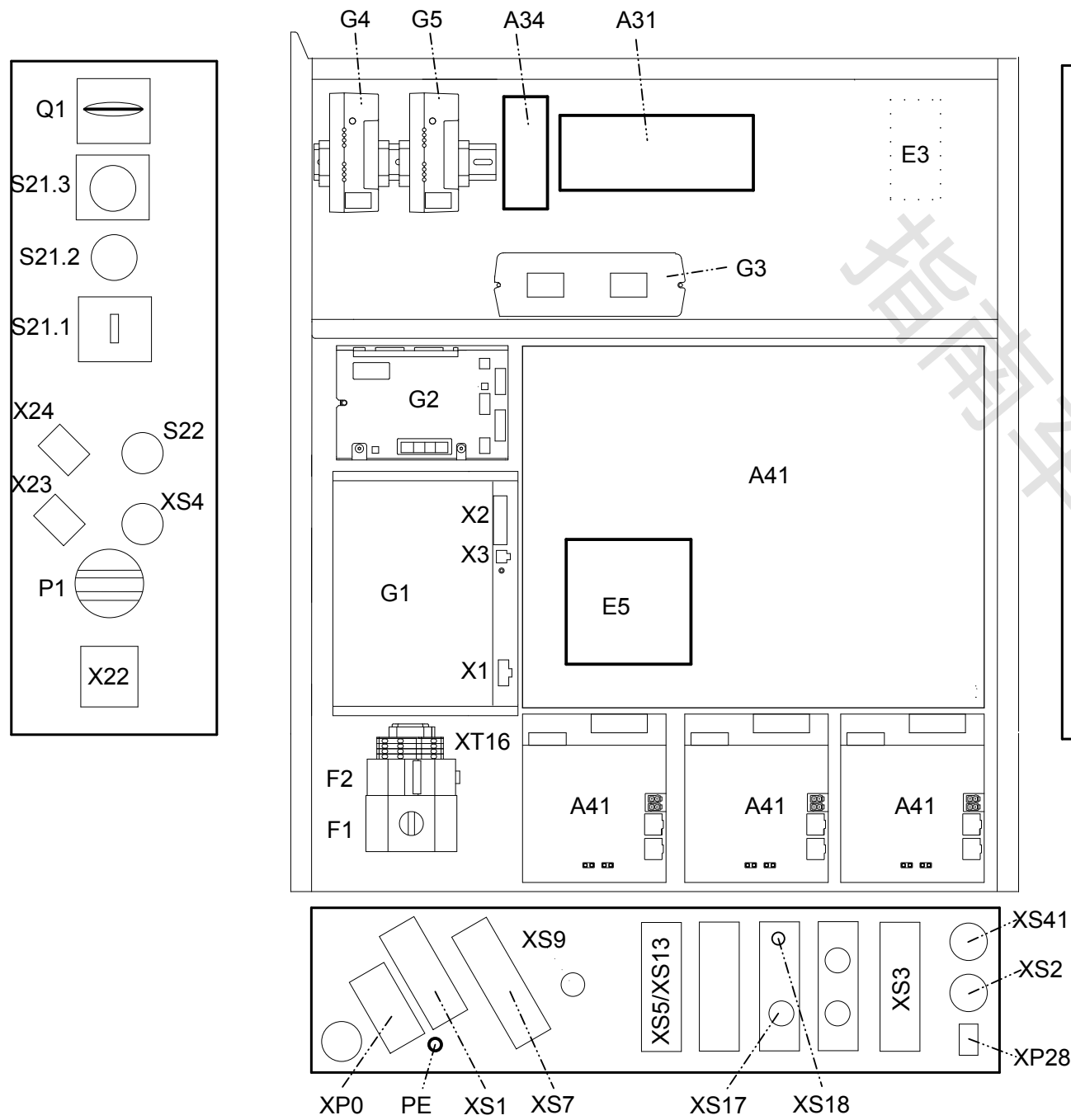
Status: 2015-09-02
 Approved Plant: =
 Location: +
 Sublocation: +

Document no.	Rev. Ind	Page 14
3HAC024480-011	05	Next 15
		Total

FRONT PANEL

FRONT VIEW

Opt. inside door with I/O and ETHERNET switch



Denomination	Unit	Pos. No	Opt. No
Digital 24 VDC		I/O 1-4	716-1
AD Combi I/O		I/O 1-4	717-1
Digital with relay		I/O 1-4	718-1
Analog 4 in/4 out		I/O 1-4	719-1
Profibus DP Slave		I/O 1-4	720-1
Interbus-S Slave		I/O 1-4	722-1
CC-link slave		I/O 1-4	723-1
ENC unit		I/O 1-4	726-1
Ethernet switch	A34		604-1/-2
Ethernet switch	A62		901-1
Ethernet switch	A64		1341-1
Ethernet switch	A65		941-1

Latest revision:
 Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36



Lab/Office:
DMRO SE/
PRH

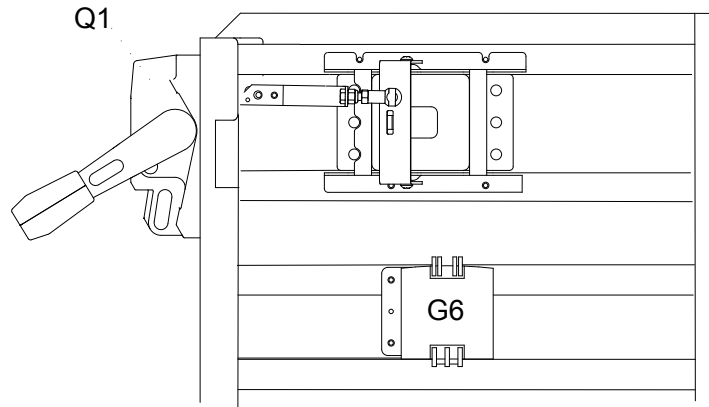
IRC5 DESIGN 14 Rel15.2
FRONT VIEW OF SINGLE CABINET MDU HV

Status: 2015-09-02 Plant: =
Approved Location: +
Sublocation: +

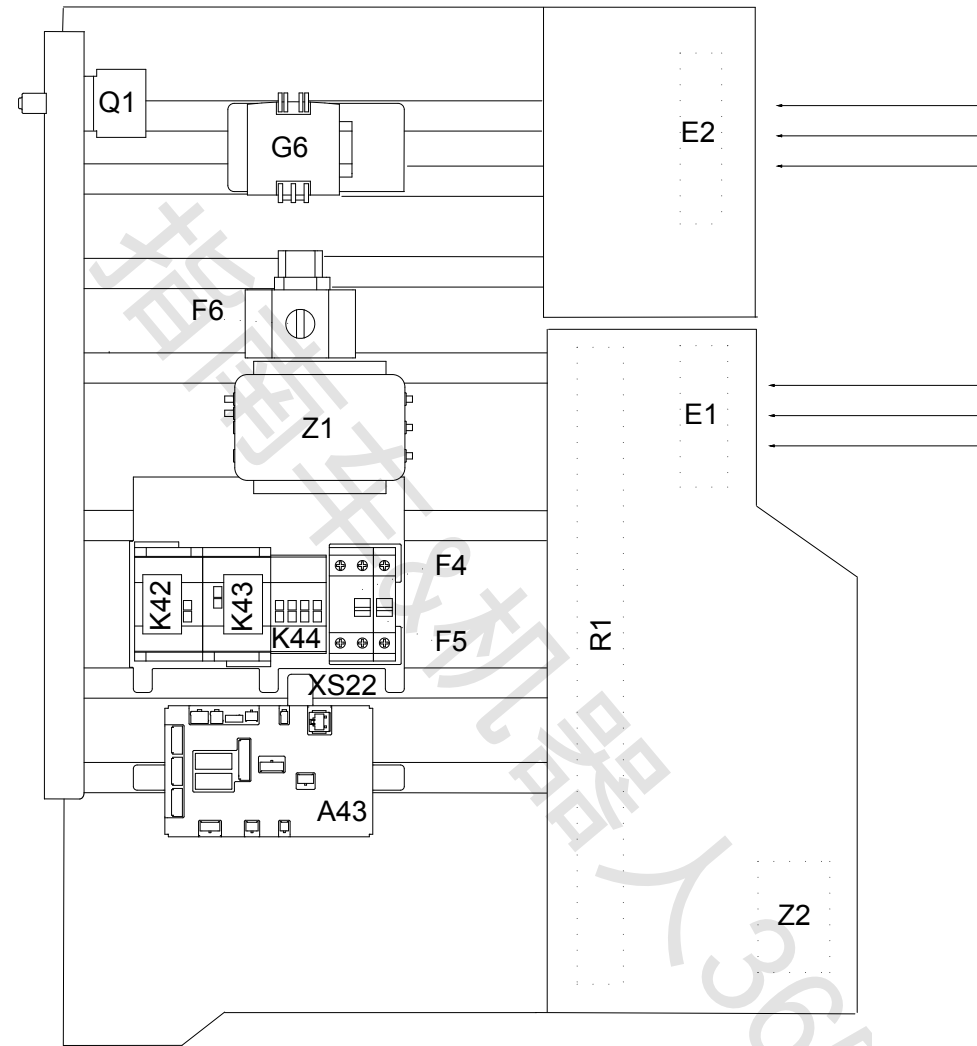
Document no. 3HAC024480-011 Rev. Ind 05 Page 16
Next 17
Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

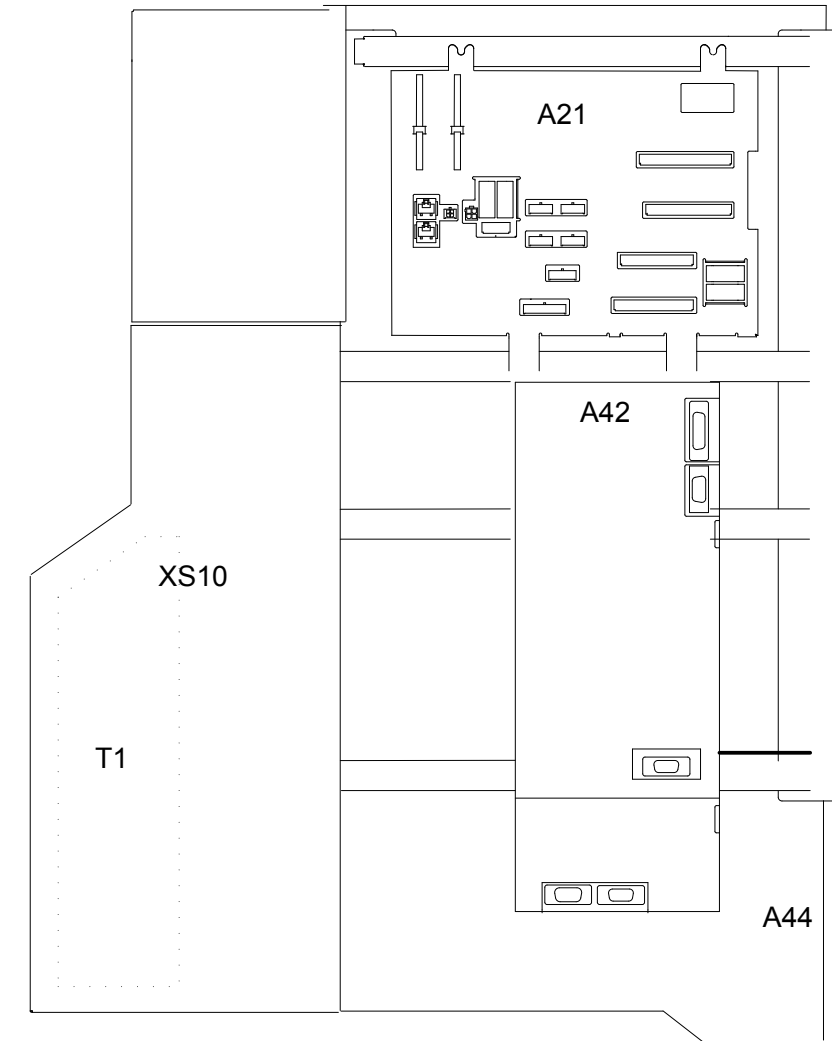
LEFT VIEW WITH
FLANGE DISCONNECT



LEFT VIEW



RIGHT VIEW



We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

Latest revision:
Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



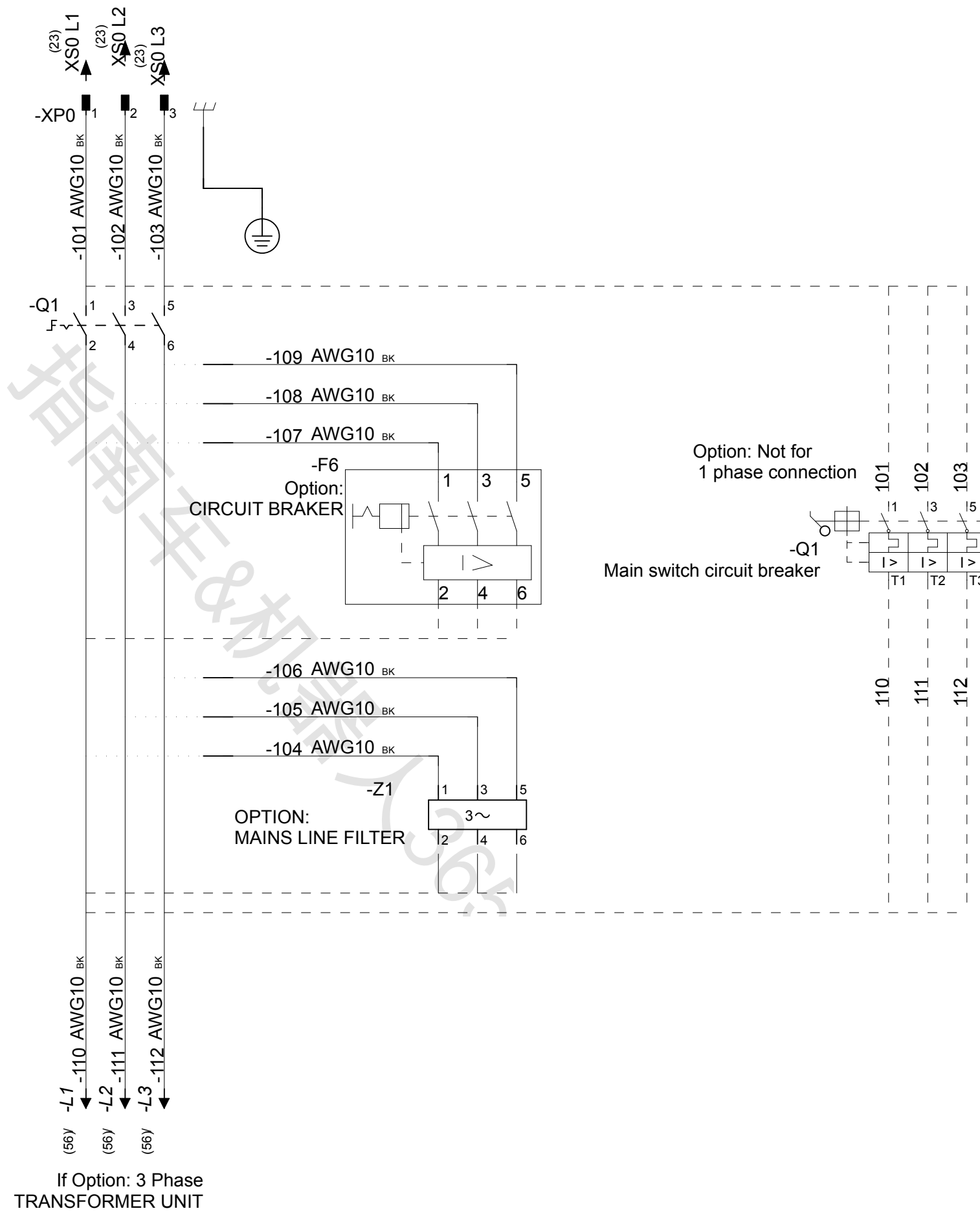
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
SIDE VIEWS OF SINGLE CABINET

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Document no. 3HAC024480-011	Rev. Ind 05	Page 18 Next 19 Total
--------------------------------	----------------	-----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
MAINS CONNECTION XP0, Q1, F6, Z1

Status: 2015-09-02 Approved	Plant: = Location: + Sublocation: +
Document no. 3HAC024480-011	Rev. Ind 05
	Page 55 Next 56 Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

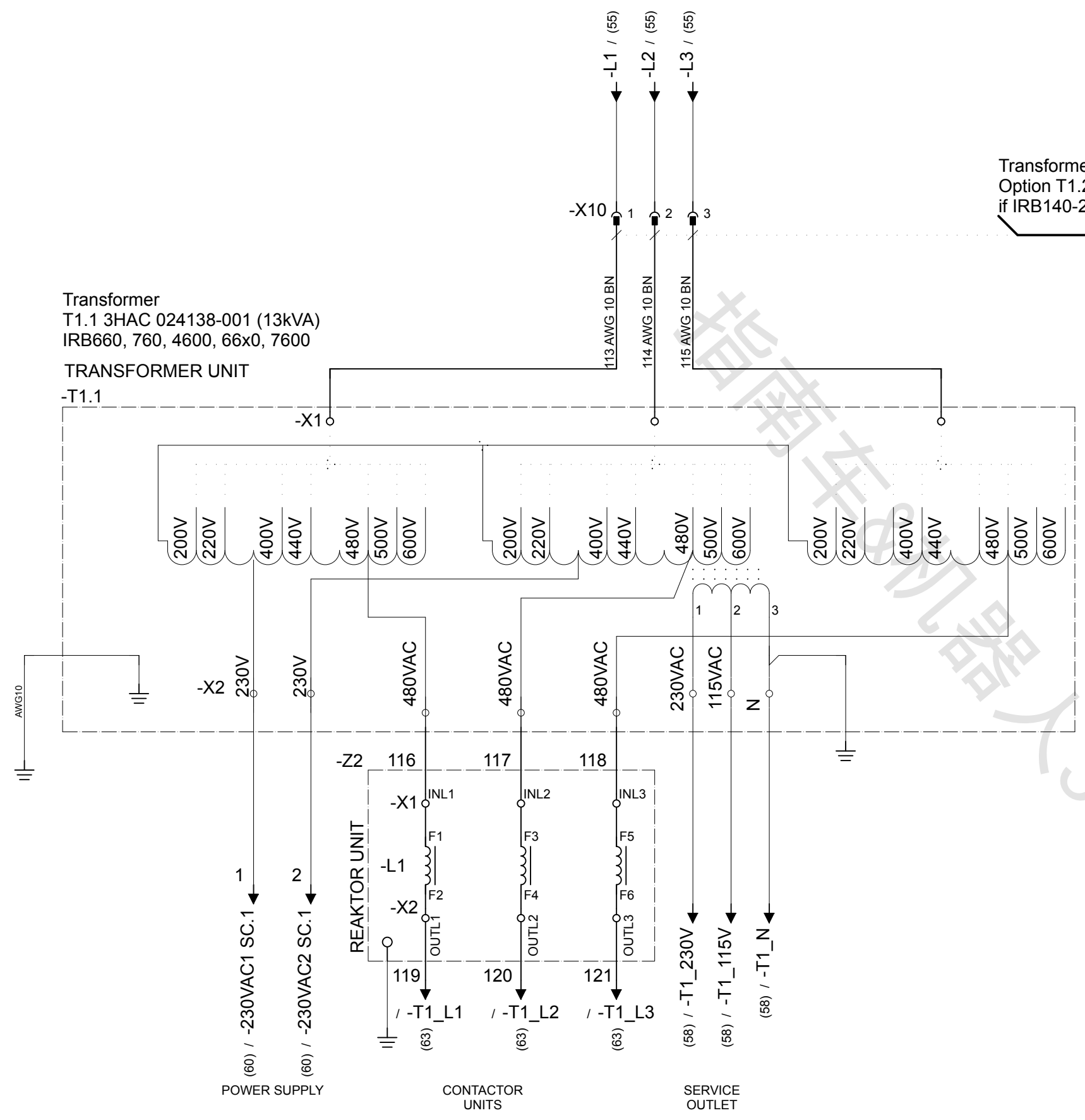
MAINS CONNECTION

Transformer
 T1.3 USED FOR DIRECT POWER SUPPLY:
 IRB660, 760, 4600, 66x0 .400-480V
 IRB7600480V
 3HAC 037015-001 1,2 kVA

Transformer
 Option T1.2 L1-L2-L3 = 262VAC
 if IRB140-2600

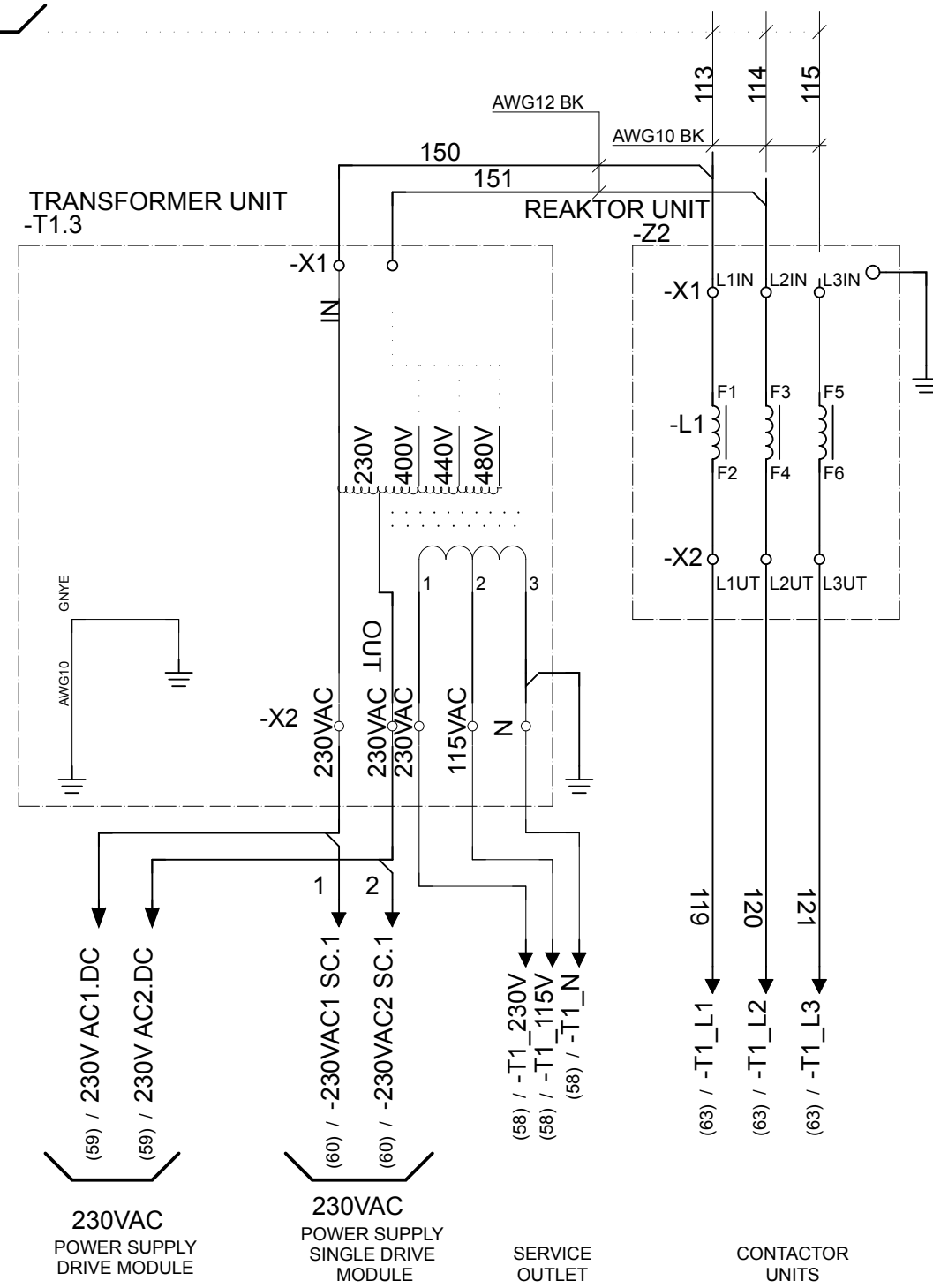
Transformer
 T1.1 3HAC 024138-001 (13kVA)
 IRB660, 760, 4600, 66x0, 7600

TRANSFORMER UNIT
 -T1.1



TRANSFORMER UNIT
 -T1.3

REAKTOR UNIT
 -Z2



Latest revision:
 Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36

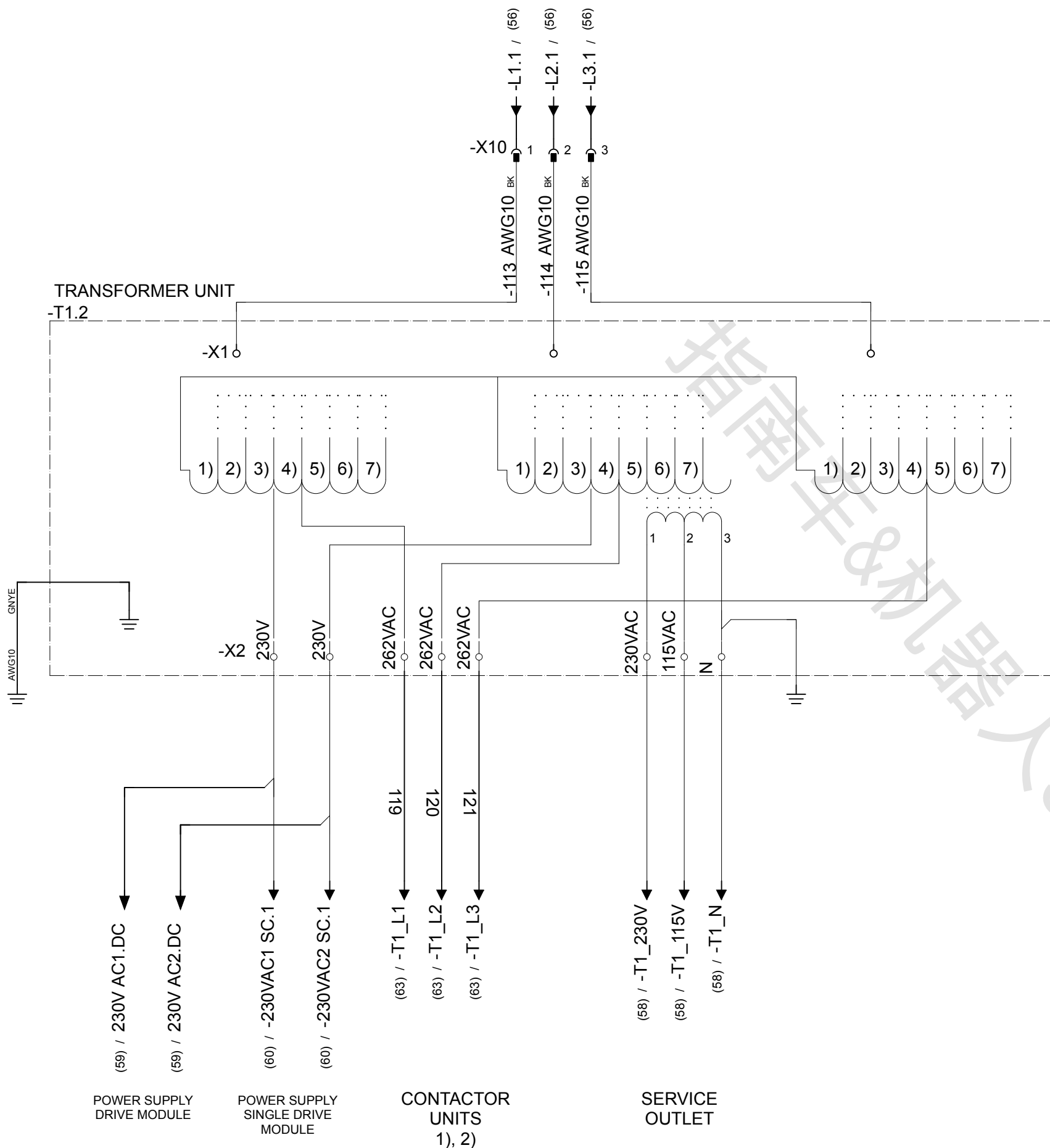


Lab/Office:
 DMRO SE/
 PRH

IRC5 DESIGN 14 Rel15.2
 TRANSFORMER UNIT 480V T1.1, T1.3, Z2, X10

Status:	2015-09-02	Plant:	=
Approved		Location:	+
		Sublocation:	+
Document no.	3HAC024480-011	Rev. Ind	05
		Page 56	
		Next 57	
		Total	

MAINS CONNECTION



Option: Transformer T1.2 L1-L2-L3 = 262V
if IRB120 - 460, 14x0 - 44x0, 6400R

Terminal	3HAC037016-001	3HAC037017-001	3HAC037018-001	3HAC024180--001
1)	200V	400V	440V	200V
2)	220V	—	480V	220V
3)	—	—	500V	400V
4)	—	—	600V	440V
5)	—	—	—	480V
6)	—	—	—	500V
7)	—	—	—	600V

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

Latest revision:
Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36



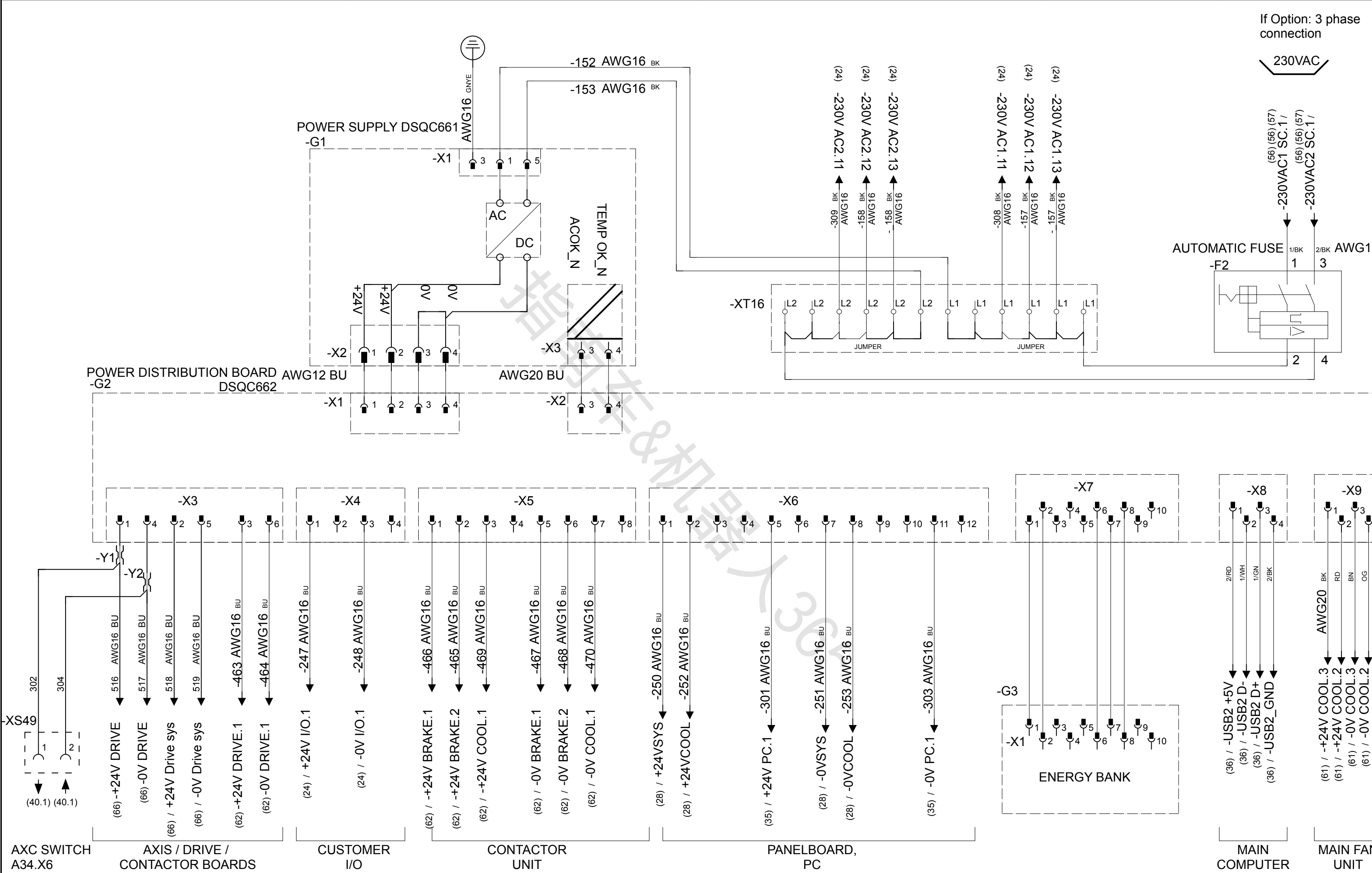
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
TRANSFORMER UNIT 262V T1.2, X10

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Document no. 3HAC024480-011
Rev. Ind 05
Page 57
Next 58
Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



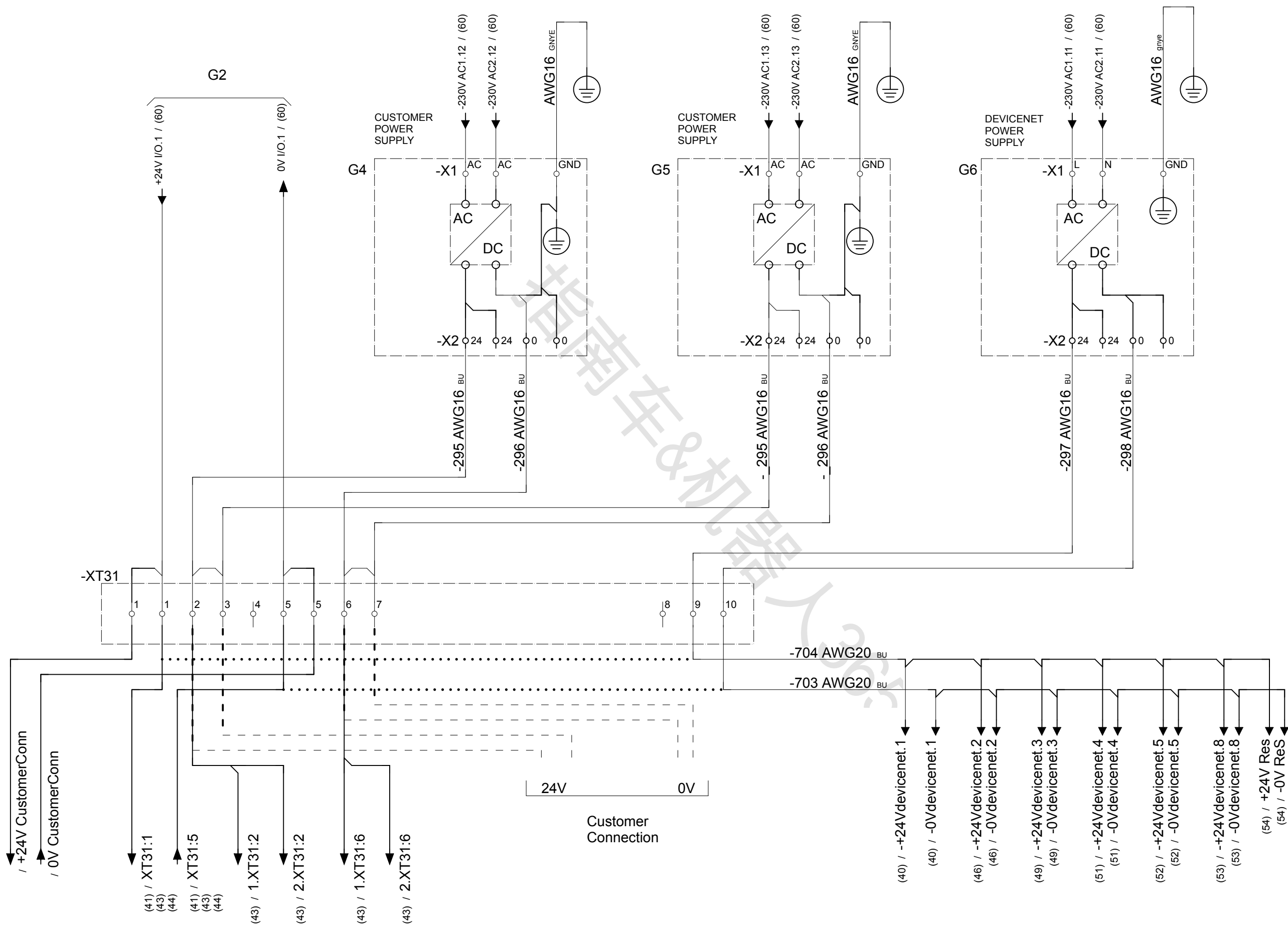
Latest revision:
 Prepared by, date: Staltnacke w36 Approved by, date: Dackemyr w36



Lab/Office:
 DMRO SE/
 PRH
 IRC5 DESIGN 14 Rel15.2
 POWER SUPPLY DSQC 661 AND 662
 G1, G2, G3, F2, XT16

Status: 2015-09-02
 Approved
 Document no. 3HAC024480-011
 Plant: =
 Location: +
 Sublocation: +
 Rev. Ind 05
 Page 60
 Next 61
 Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:

Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36



Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
OPT:POWER SUPPLY DSQC609 XT31, G4, G5, G6

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

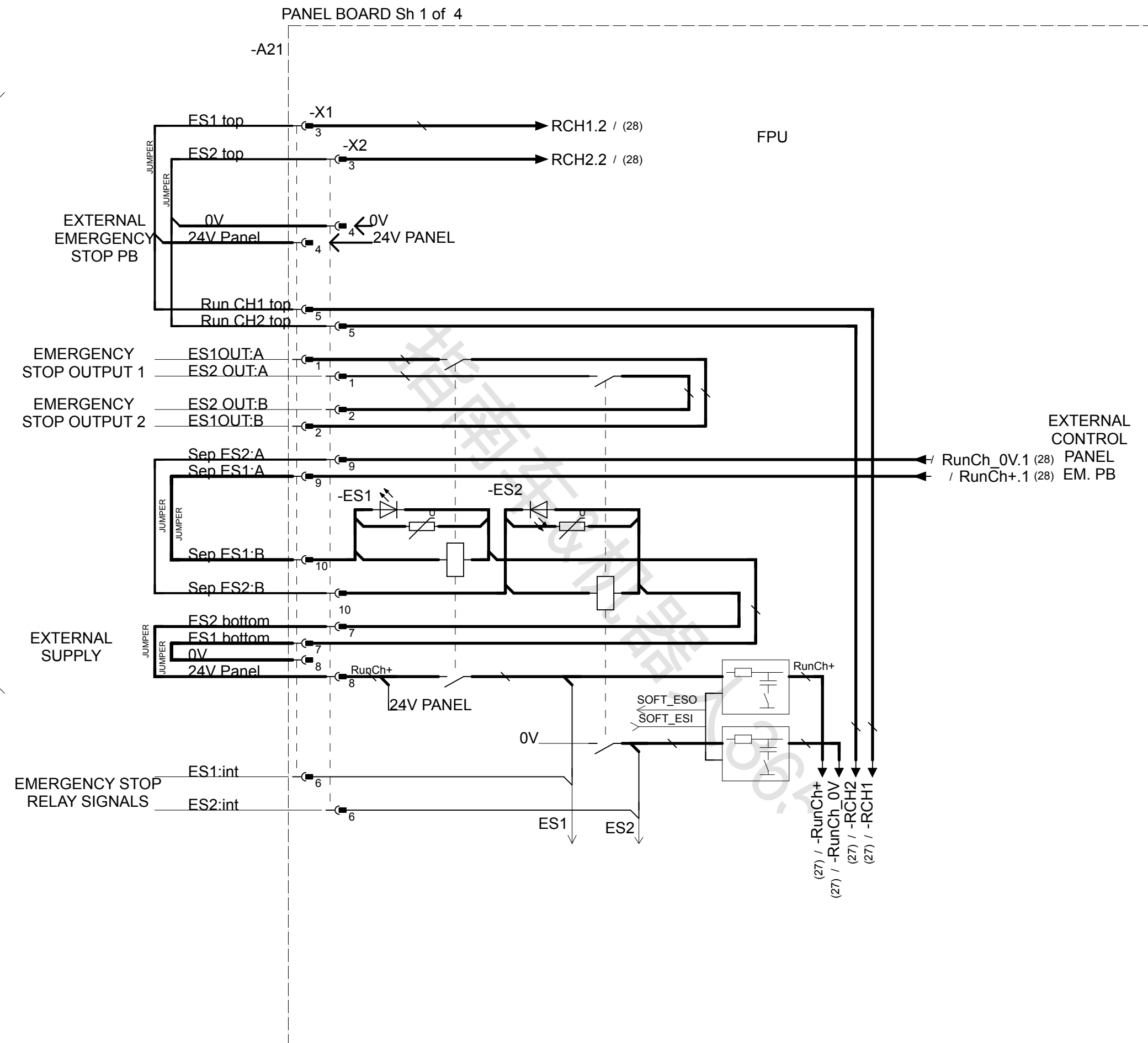
Document no.
3HAC024480-011

Rev. Ind
05
Page24
Next 25
Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

→ 2. See pages (33)

OPTION: EXTERNAL CONNECTIONS



Latest revision:
 Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



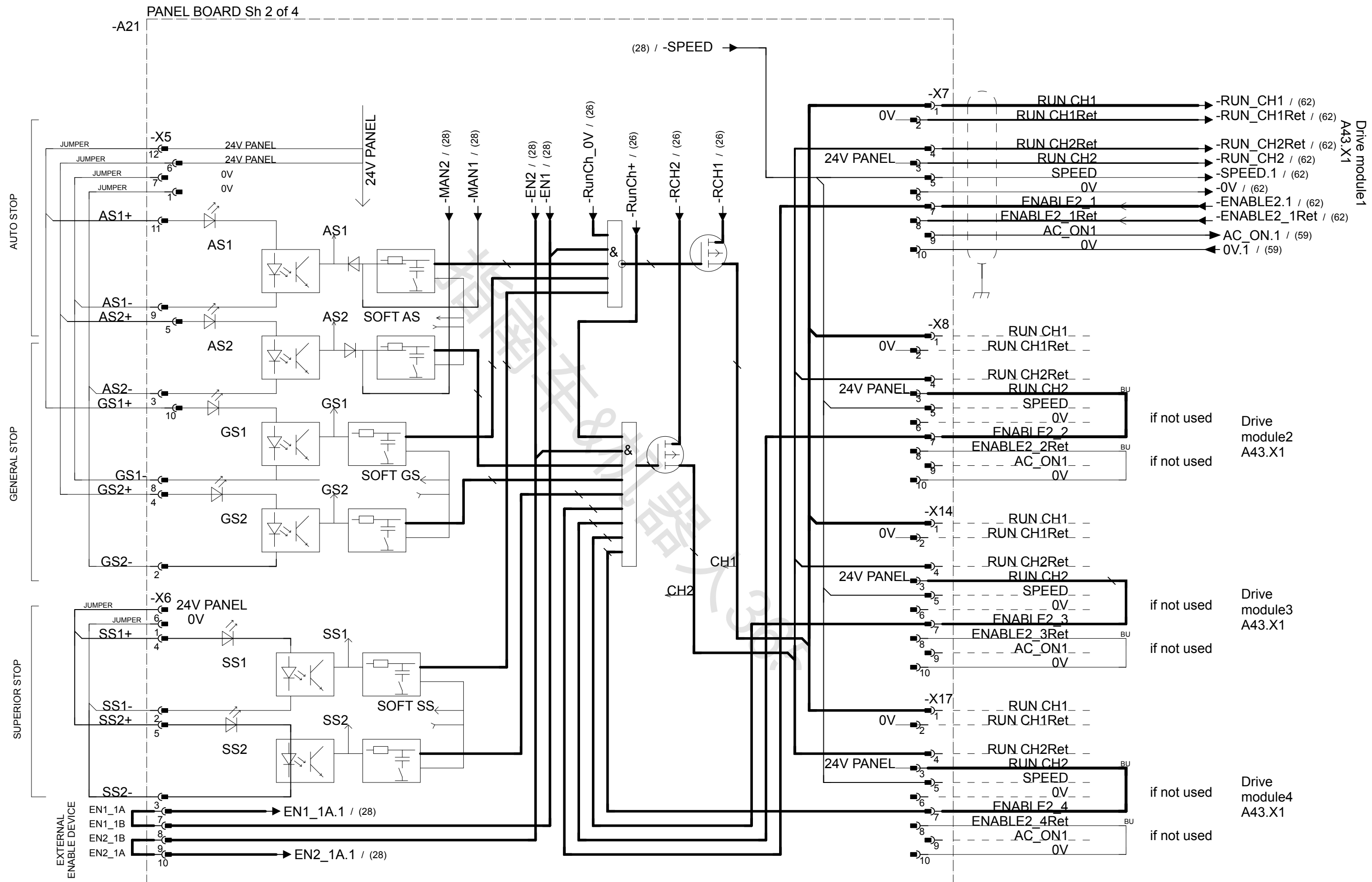
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
 RUN CHAIN and PANEL BOARD A21 part one

Status: 2015-09-02 Approved	Plant: = Location: + Sublocation: +
Document no. 3HAC024480-011	Rev. Ind 05
	Page 26 Next 27 Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

Option: External Enable Device → 1. See pages (33)



Latest revision: _____

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36

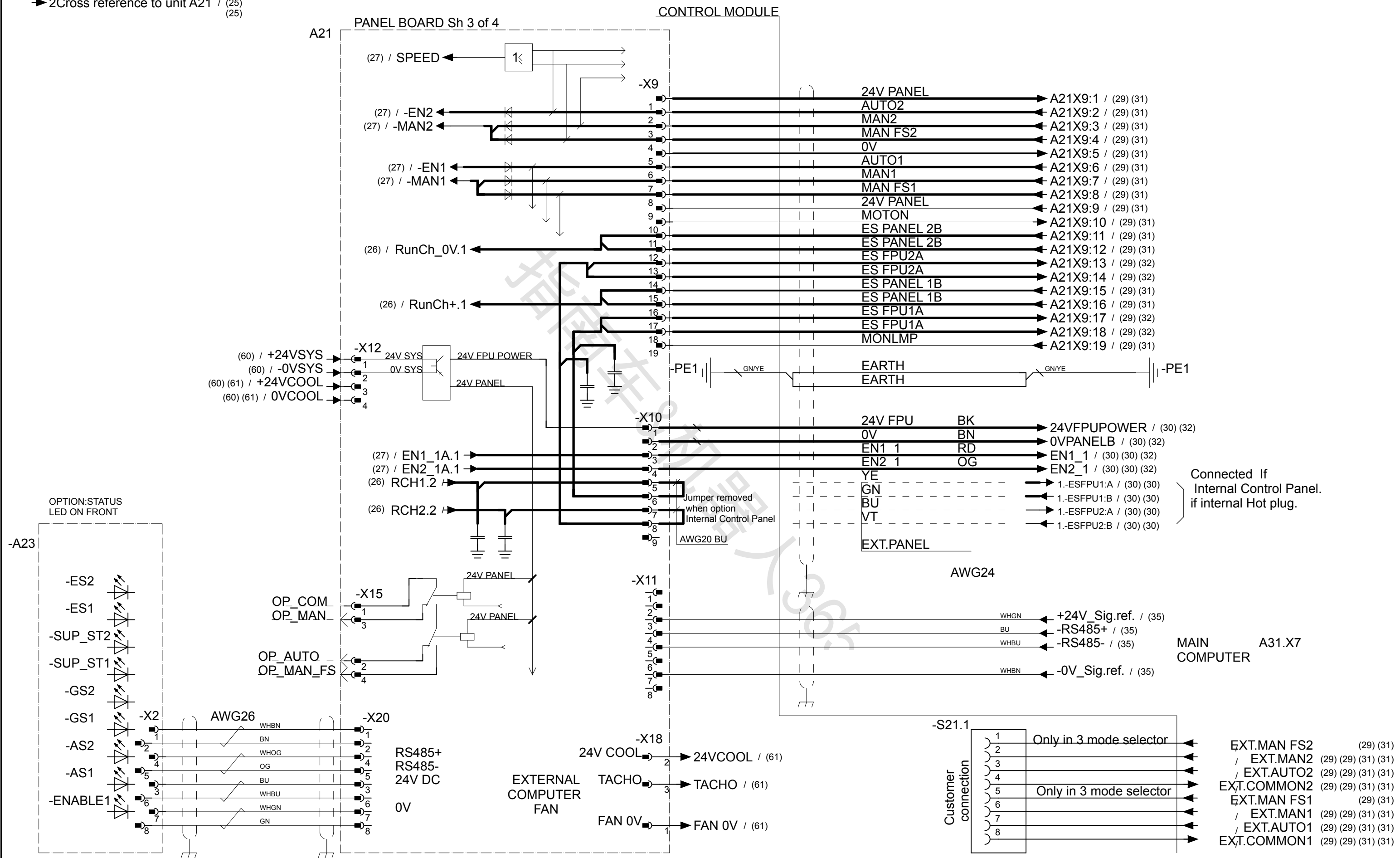


Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
RUN CHAIN and PANEL BOARD A21 part two

Status: 2015-09-02	Plant: =
Approved	Location: +
	Sublocation: +
Document no. 3HAC024480-011	Rev. Ind 05
	Page27 Next 28 Total

► 2Cross reference to unit A21 / (25)
(25)
(25)



Latest revision:

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



Lab/Office: DMRO SE/ PRH

IRC5 DESIGN 14 Rel15.2

RUN CHAIN and PANEL BOARD A21 part three

Status: 2015-09-02 | Plant: =

Approved | Location: +

Sublocation: +

Document no. 3HAC024480-011 | Rev. Ind 05 | Page 28

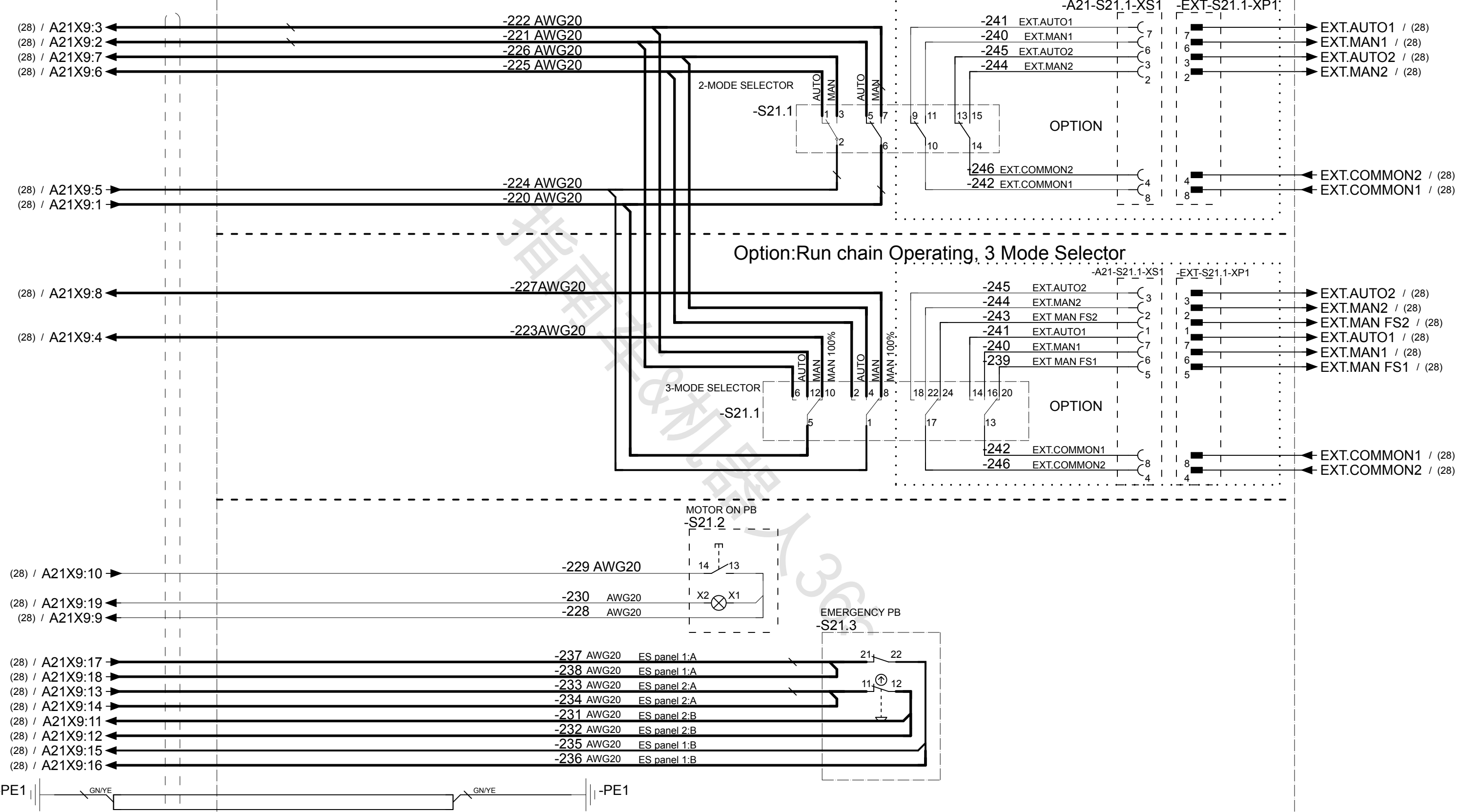
Next 29 | Total

3 Cross reference to S.21 / (25) (25) (25)

CONTROL PANEL -A21

Option:Run chain Operating, 2 Mode Selector

Option:Run chain Operating, 3 Mode Selector



We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

Latest revision:
 Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36



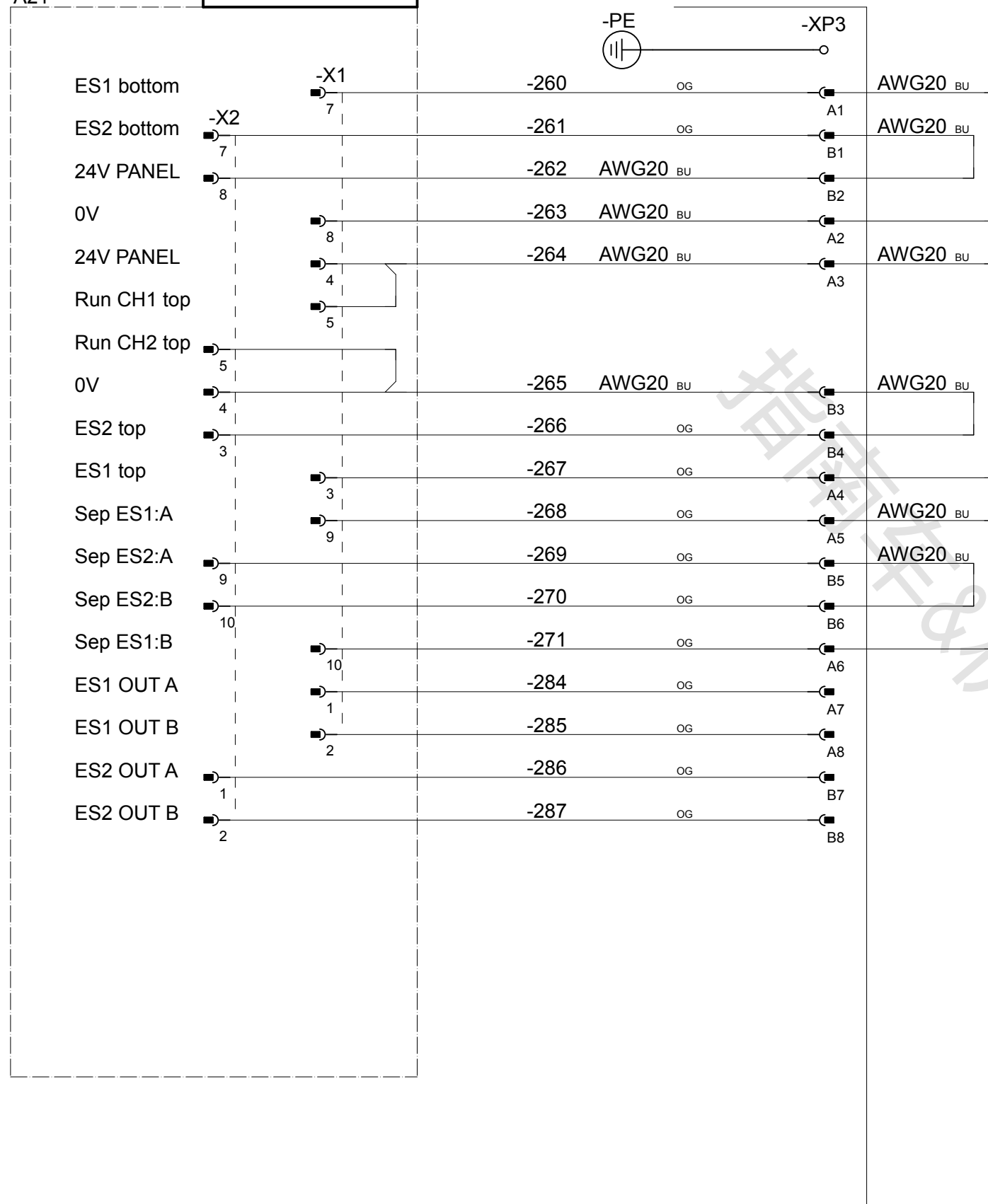
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
 RUN CHAIN A21, EMERGENCY STOP,
 2 AND 3 MODE SELECTOR

Status: 2015-09-02
 Approved
 Document no. 3HAC024480-011
 Rev. Ind 05
 Plant: =
 Location: +
 Sublocation: +
 Page 29
 Next 30
 Total

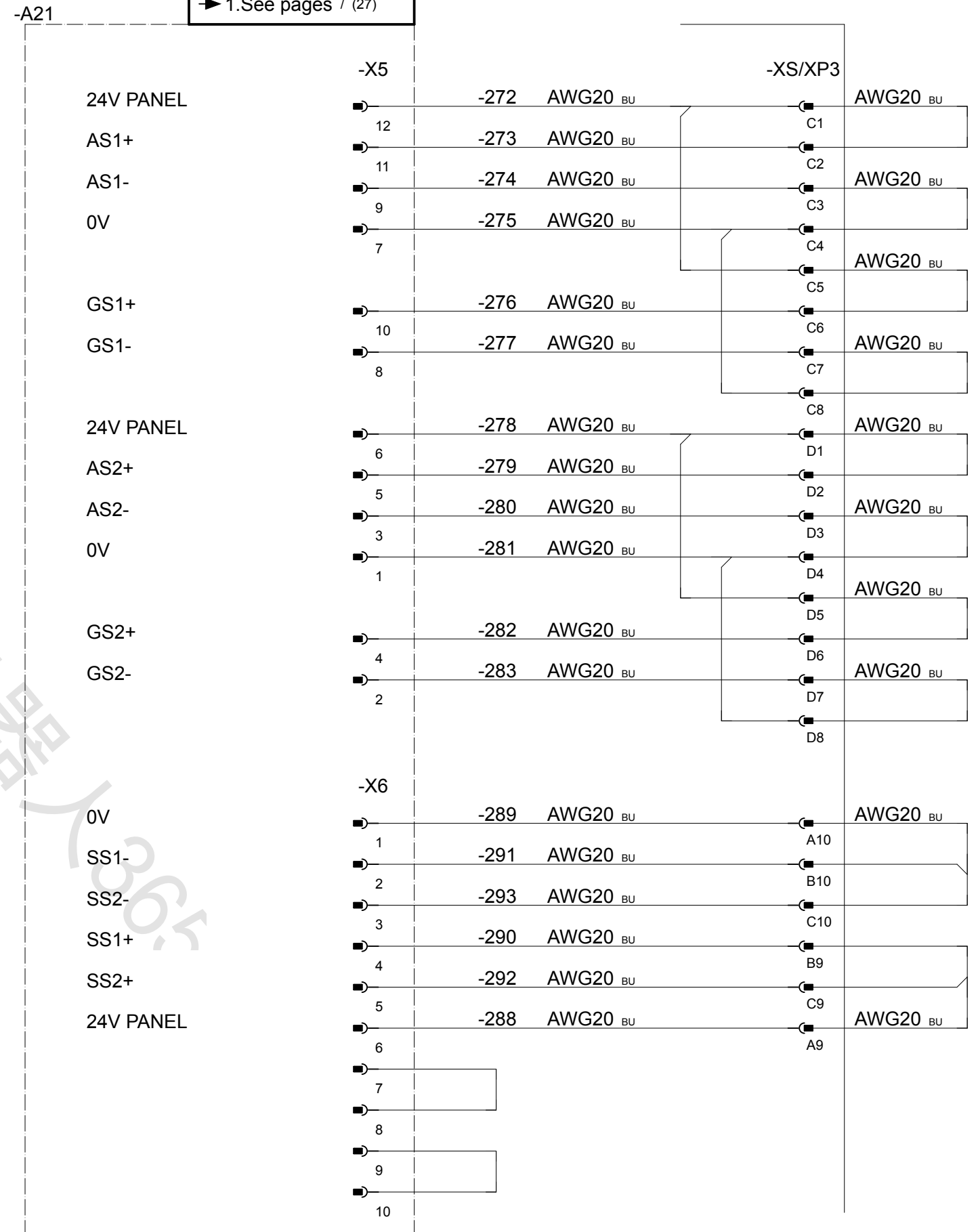
PANEL BOARD
-A21

➔ 2. See pages / (26)



PANEL BOARD Sh 1 of 4

➔ 1. See pages / (27)



We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

Latest revision:

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
PANEL BOARD A21 Opt:EXT.CUSTOMER. CONNECT.
SYSTEM SIGNALS

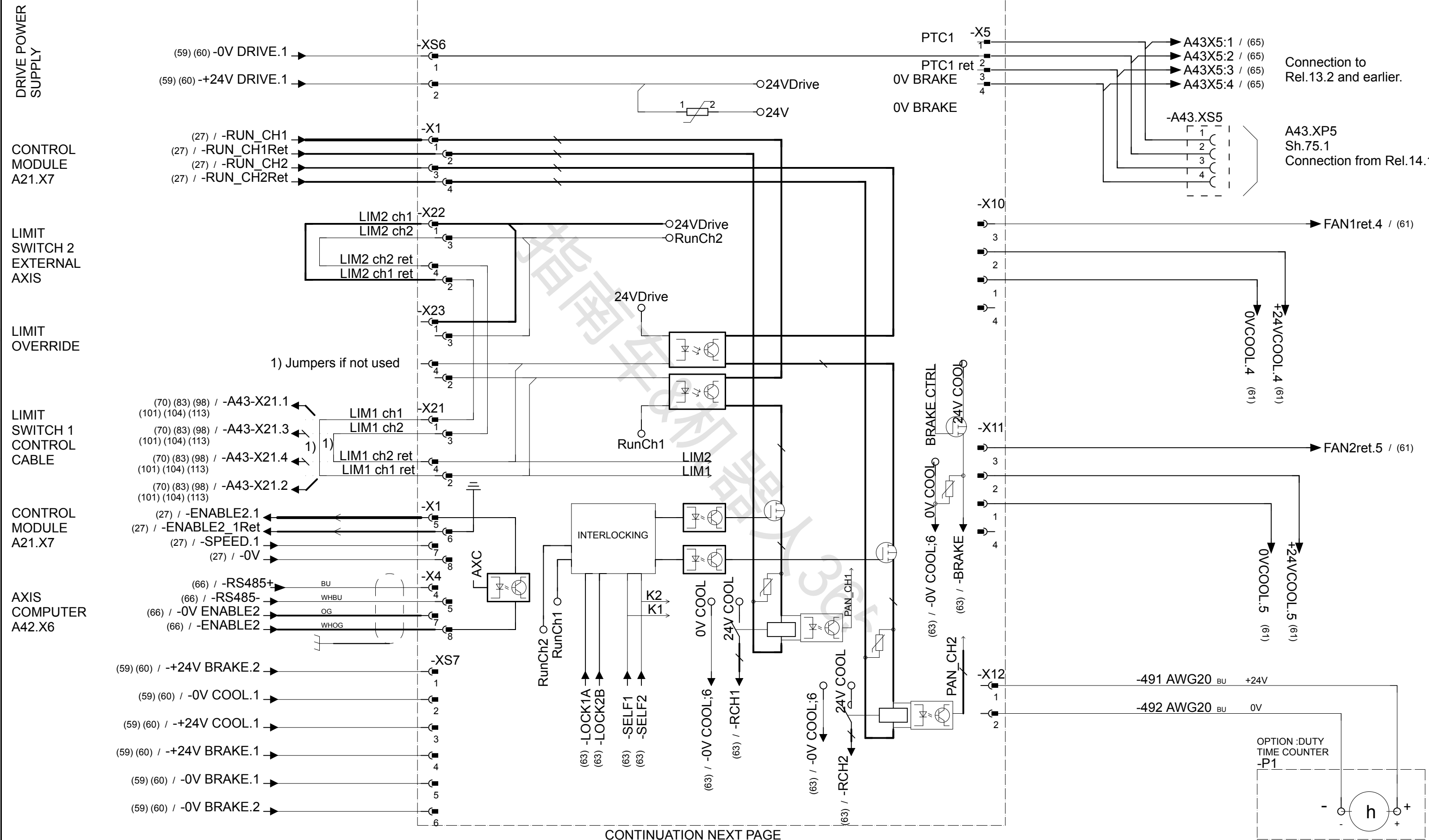
Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Document no. 3HAC024480-011	Rev. Ind 05	Page33 Next 34 Total
--------------------------------	----------------	----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

CONTACTOR BOARD

-A43



CONTINUATION NEXT PAGE

Latest revision:
 Prepared by, date: Staltnacke w36 | Approved by, date: Dackemyr w36



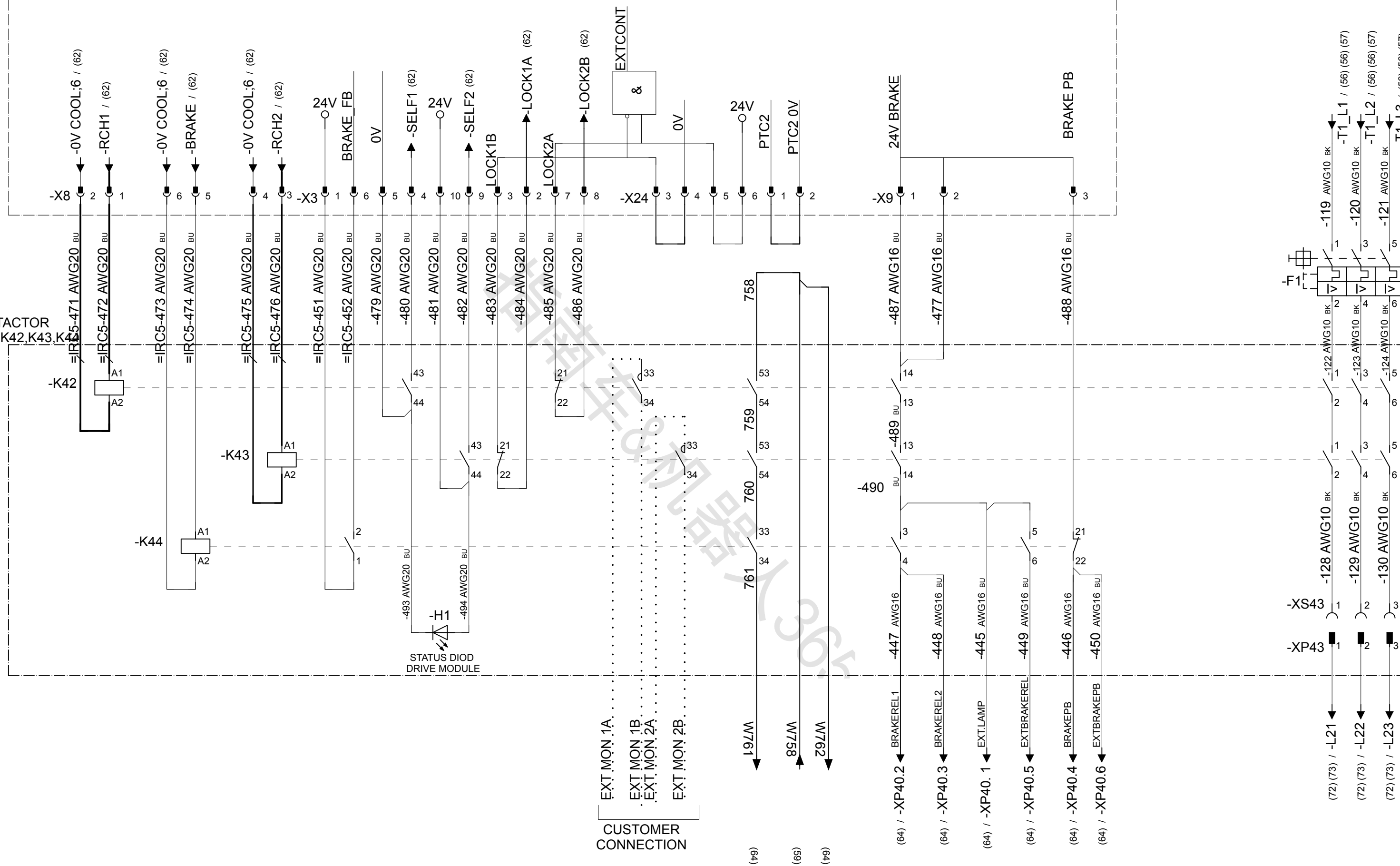
Lab/Office:
DMRO SE/
PRH
 IRC5 DESIGN 14 Rel15.2
 CONTACTOR BOARD A43

Status: 2015-09-02 | Plant: =
 Approved | Location: +
 Sublocation: +
 Document no. 3HAC024480-011 | Rev. Ind 05 | Page 62
 Next 63
 Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB

**CONTACTOR BOARD
-A43**

**CONTACTOR
UNIT K42, K43, K44**



EXT. MON. 1A
EXT. MON. 1B
EXT. MON. 2A
EXT. MON. 2B
CUSTOMER CONNECTION

(CONTROL CABLE AND OPTION: EXTERNAL AXIS)

MAIN DRIVE UNIT

Latest revision:



Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
CONTACTOR UNIT A43, K42, K43, K44

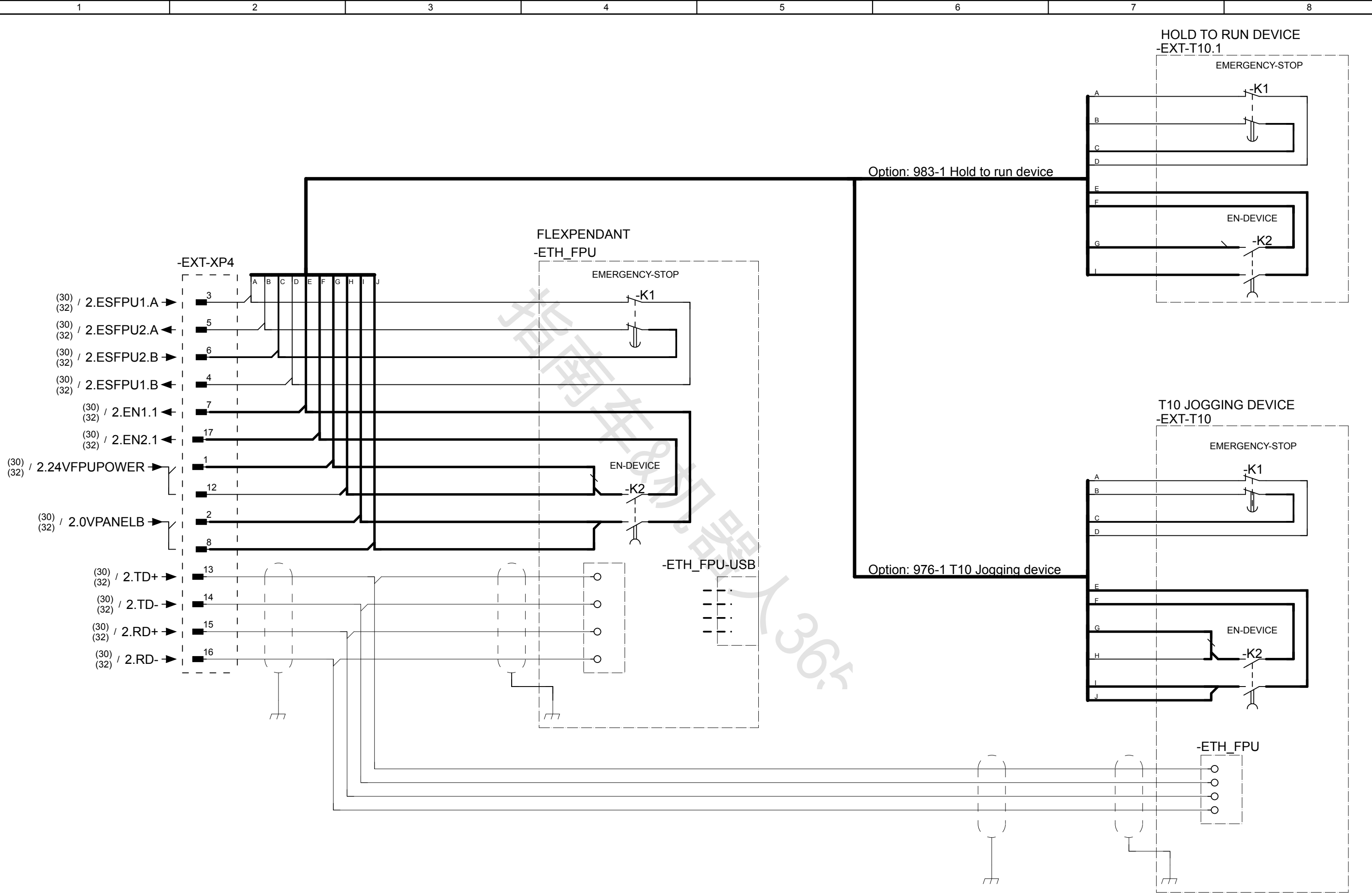
Status: 2015-09-02
Approved

Plant: =
Location: +
Sublocation: +

Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36

Document no. 3HAC024480-011	Rev. Ind 05	Page 63 Next 64 Total
---------------------------------------	-----------------------	-----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:
 Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



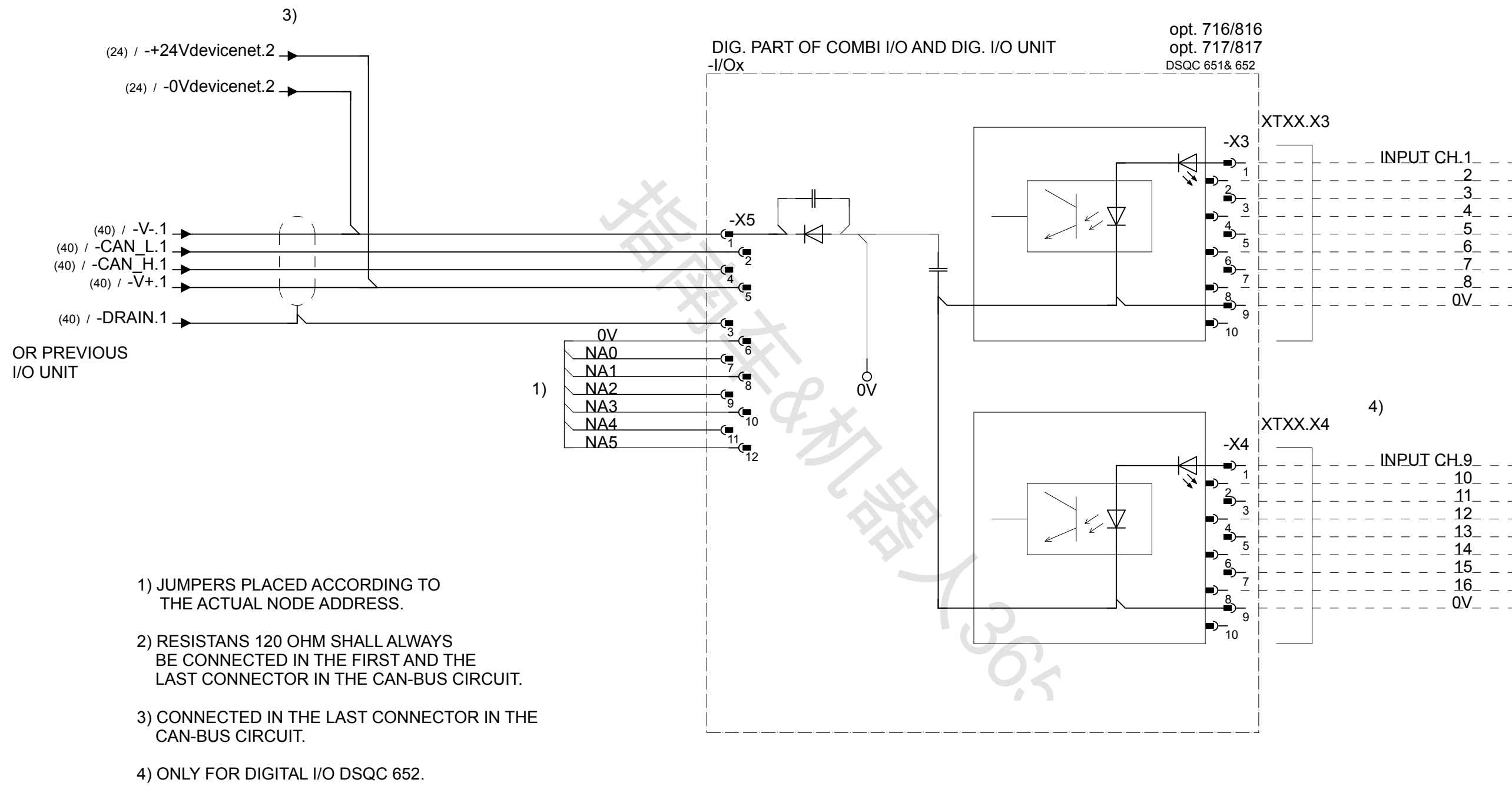
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
 FPU, FLEXPENDANT and Opt. HOLD TO RUN DEVICE
 T10 JOGGING DEVICE

Status: 2015-09-02 | Plant: =
 Approved | Location: +
 Sublocation: +

Document no. 3HAC024480-011 | Rev. Ind 05 | Page 30.1
 Next 31
 Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



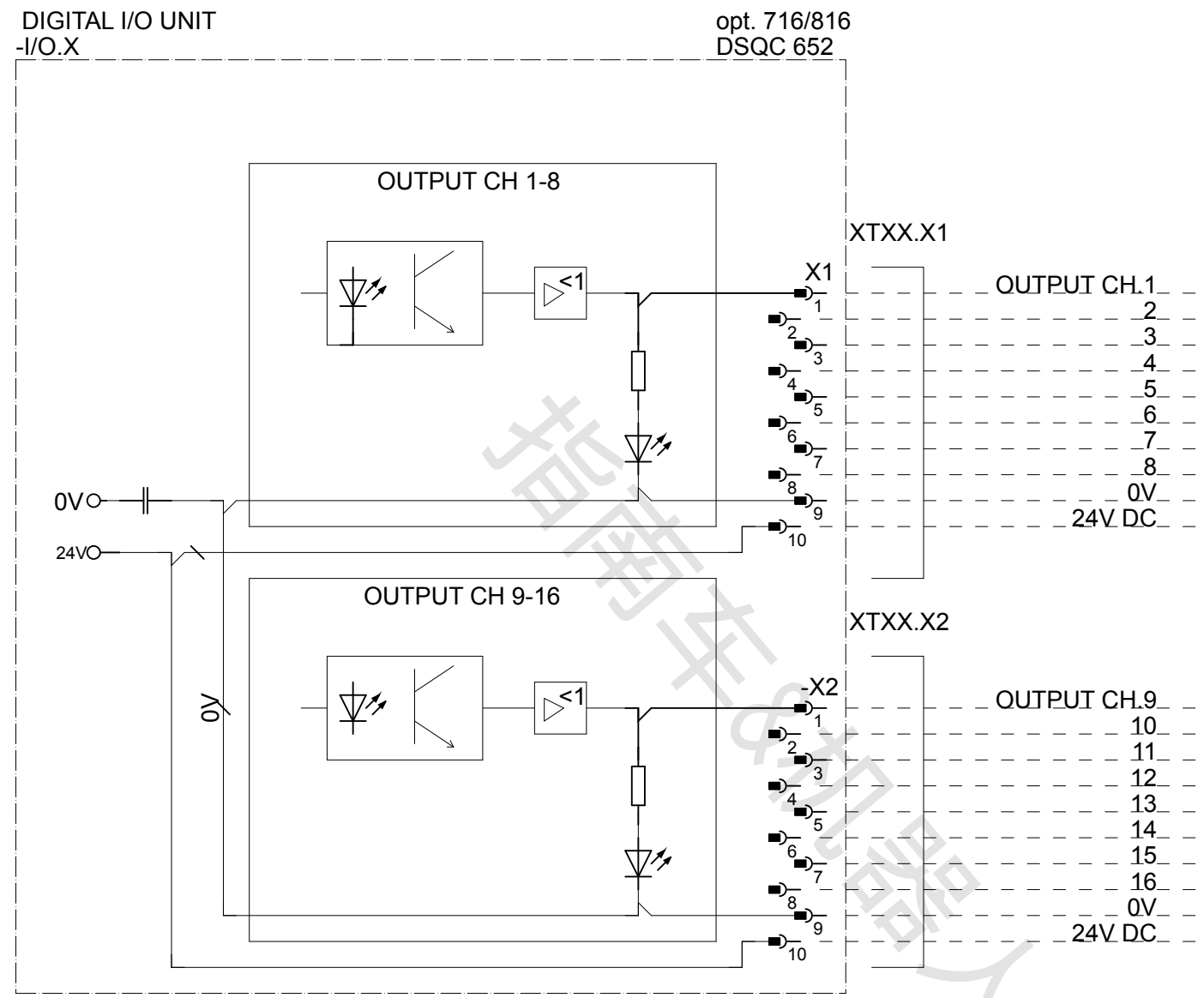
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
DIGITAL PART OF COMBI I/O AND
DIGITAL I/O UNIT DSQC651&652

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Document no.	Rev. Ind	Page46
3HAC024480-011	05	Next 47
		Total

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:



Lab/Office:
DMRO SE/
PRH

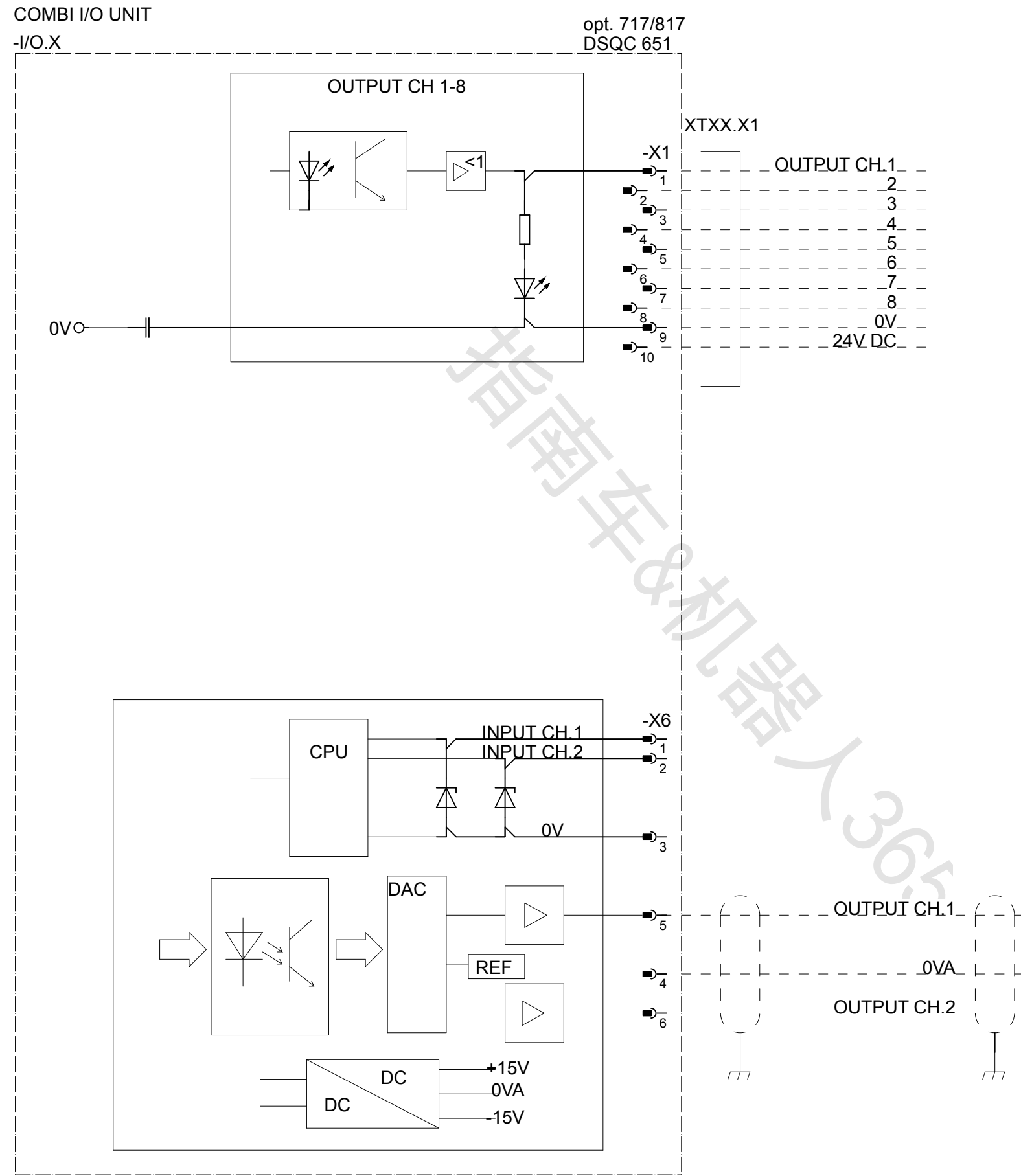
IRC5 DESIGN 14 Rel15.2
DIGITAL I/O UNIT DSQC652

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36

Document no. 3HAC024480-011	Rev. Ind 05	Page47 Next 48 Total
--------------------------------	----------------	----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:

Prepared by, date: Stalnacke w36 Approved by, date: Dackemyr w36



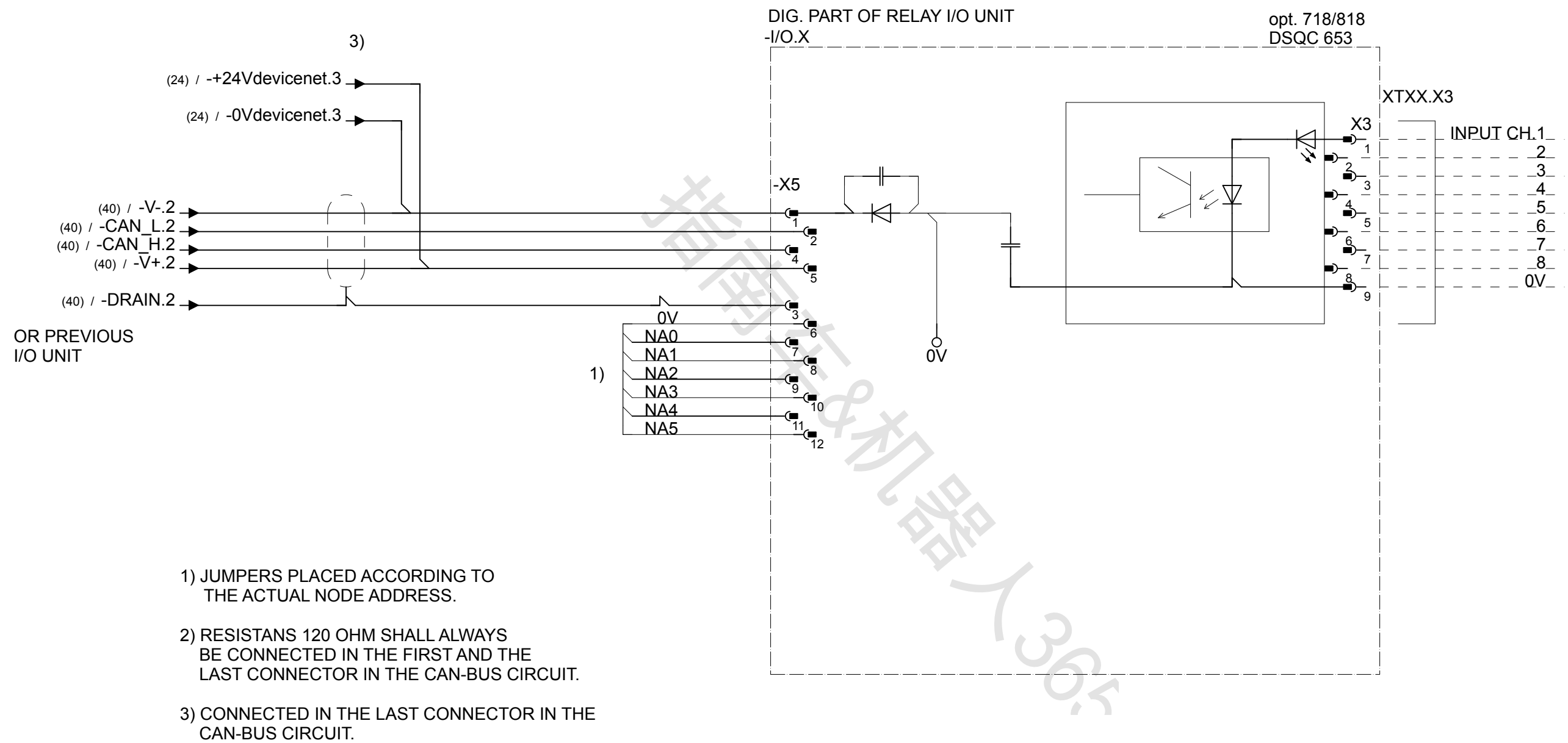
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
COMBI I/O UNIT DSQC651

Status: 2015-09-02 Plant: =
Approved Location: +
Sublocation: +

Document no. 3HAC024480-011	Rev. Ind 05	Page48 Next 49 Total
--------------------------------	----------------	----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



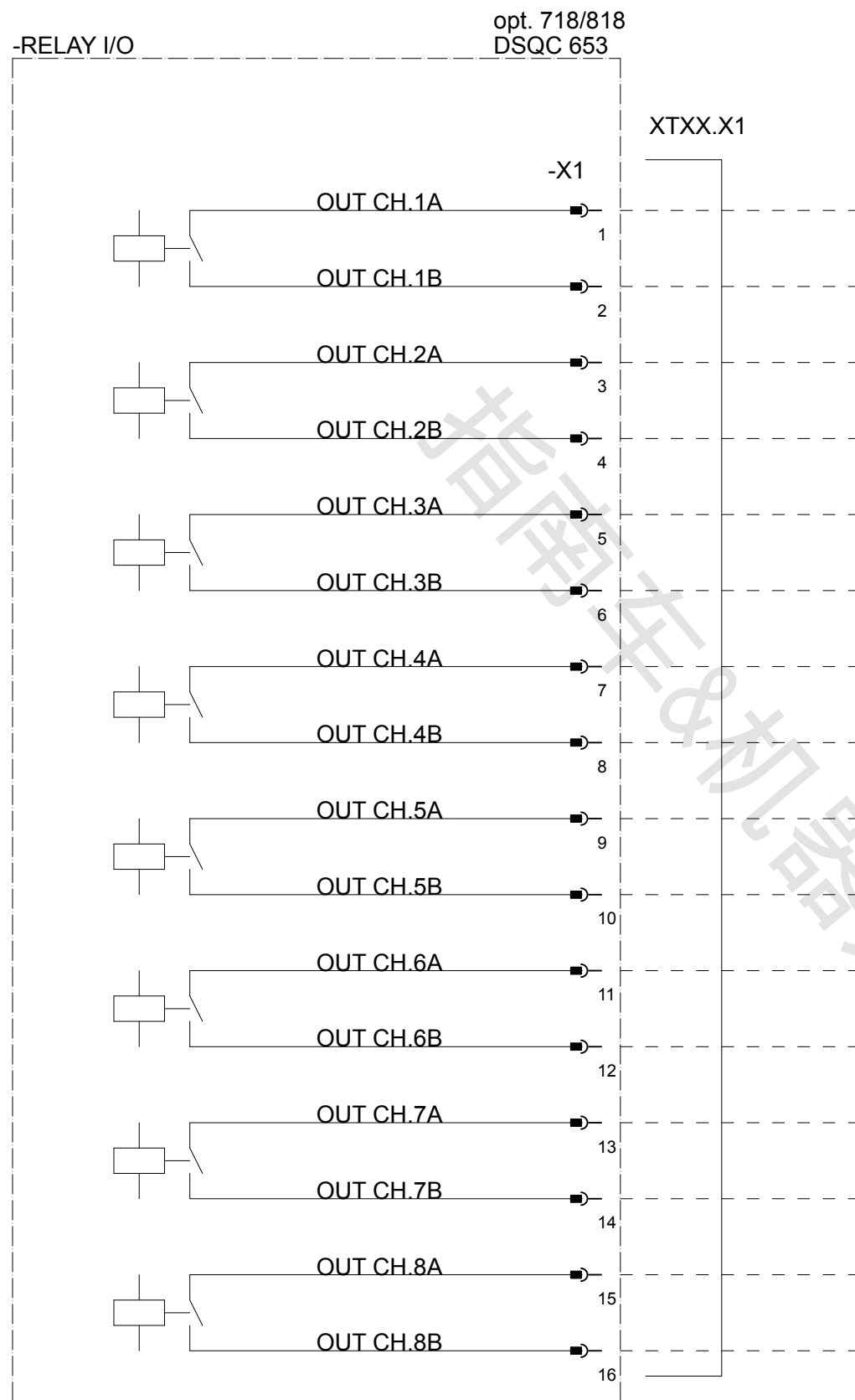
Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
RELAY I/O UNIT DSQC653

Status: 2015-09-02
Approved
Plant: =
Location: +
Sublocation: +

Document no. 3HAC024480-011	Rev. Ind 05	Page49 Next 50 Total
--------------------------------	----------------	----------------------------

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. © Copyright 2003 ABB



Latest revision:

Prepared by, date: Stalnacke w36 | Approved by, date: Dackemyr w36



Lab/Office:
DMRO SE/
PRH

IRC5 DESIGN 14 Rel15.2
RELAY I/O UNIT DSQC653

Status: 2015-09-02
Approved

Plant: =
Location: +
Sublocation: +

Document no.
3HAC024480-011

Rev. Ind
05

Page50
Next 51
Total