UNIVERSAL ROBOTS

Company	Universal Robots
Drawing number	3.0.5.2
Project name	Universal Robots UR5
Created on	25-09-2014
Edit date	02-12-2015
Number of pages	19

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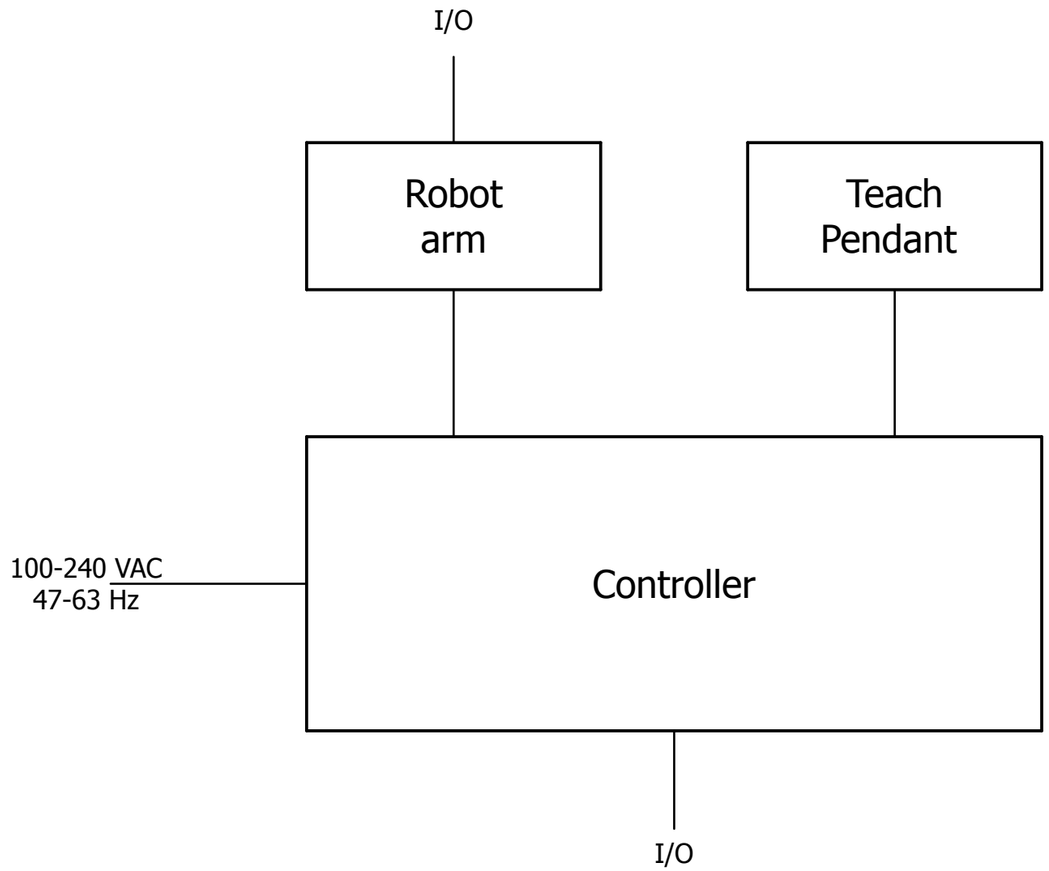
CB3 Overview UR5



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CB3.0 Controller UR5

Wire colour codes	
Black	BK
Blue	BU
Brown	BN
Green	GN
Orange	OG
Red	RD
White	WH
Yellow	YE
Green/Yellow	GNYE

Supply:
100-240 VAC
47-63 Hz

Current Distributor
CON
L
N
GND
12V PSU
48V PSU1
48V PSU2

12V PSU
48V PSU

Energy Eater
+48V
GND

Safety Control Board
SAFETY
12V
ON/OFF
24V
Euromap E67
Config. DI
Config. DI
Config. DO
Config. DO
DI
DI
DO
DO
AI/AO

Motherboard
Compact Flash Card
TCP/IP
RS485
12V
48V Relay
USB
USB
TCP/IP
TCP/IP
DVI
Touch
RS232

Teach Pendant
USB

Robot
RS485
48V
ID=0 Base
ID=1 Shoulder
ID=2 Elbow
ID=3 Wrist 1
ID=4 Wrist 2
ID=5 Wrist 3
Tool
24v DI/DO AI

GND
6 4 2 3 1

10 12

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CB3.1 Controller UR5

Wire colour codes	
Black	BK
Blue	BU
Brown	BN
Green	GN
Orange	OG
Red	RD
White	WH
Yellow	YE
Green/Yellow	GNYE

Supply:
100-240 VAC
47-63 Hz

CON
Current Distributor
12V PSU: L, N, GND
48V PSU1: L, N, GND
48V PSU2: L, N, GND

12V PSU: L, N, GND → +V, -V
48V PSU: L, N, GND → +V, -V

BN, BU, GNYE

Energy Eater: +48V, GND

BK, BN, OG, WH, RD

GND
+IN 48V
+OUT 48V
RS485
12V
12V
48V Relay
RS485 12V
TCP/IP

Safety Control Board
12V
SAFETY
ON/OFF
24V
Euromap E67
Config. DI
Config. DI
Config. DO
Config. DO
DI
DI
DO
DO
AI/AO

GND
6 4 2 3 1

Robot
RS485
48V
ID=0 Base
ID=1 Shoulder
ID=2 Elbow
ID=3 Wrist 1
ID=4 Wrist 2
ID=5 Wrist 3
Tool
24v DI/DO AI

Motherboard CB3.1
+ + GND GND 12V
Touch
RS232
DVI
TCP/IP
TCP/IP
USB BLUE
USB
USB
USB
SYSTEM-SW S/N

Teach Pendant

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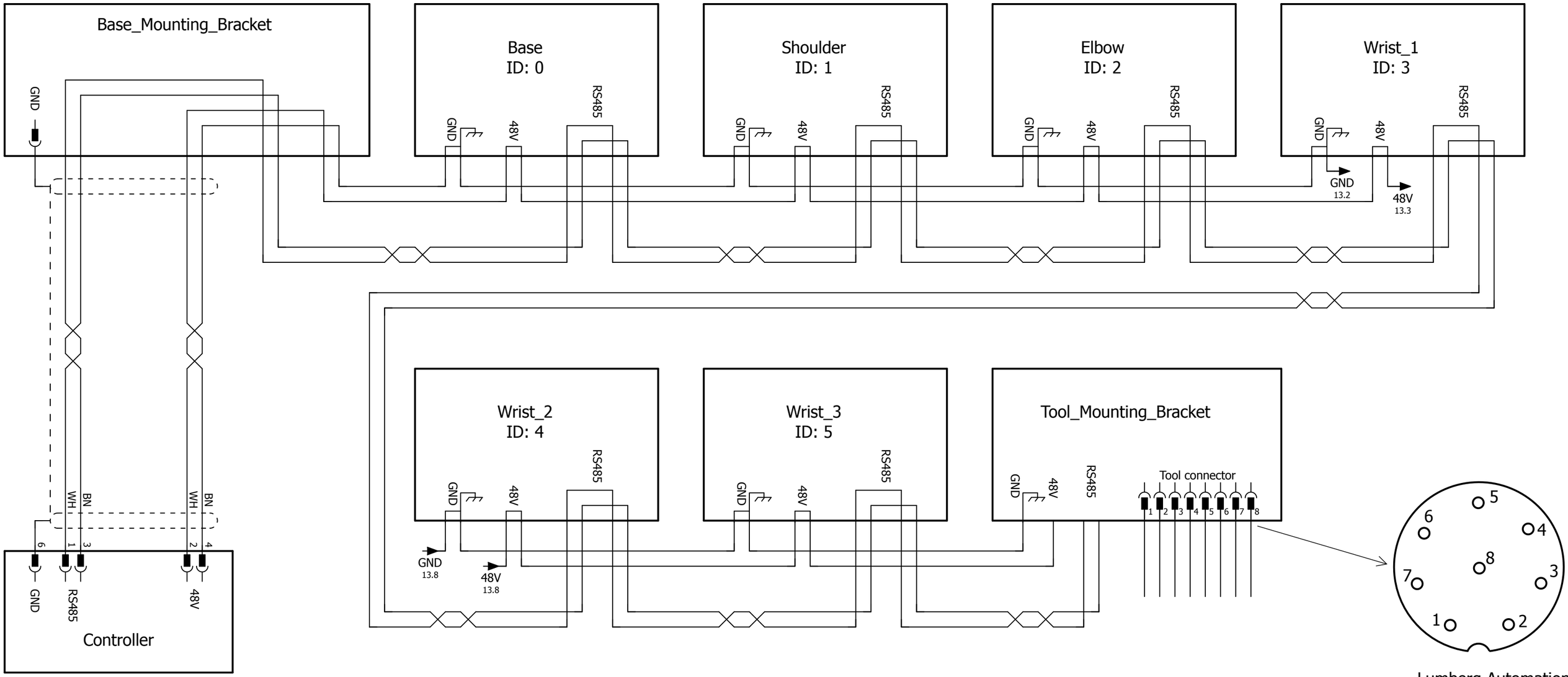
CB3 UR5 Robot arm



Lumberg Automation
Type: RSMEDG 8
Male Front view

1 = white	AI[2]
2 = brown	AI[3]
3 = green	DI[9] (pnp)
4 = yellow	DI[8] (pnp)
5 = grey	12/24V (power)
6 = pink	DO[9] (npn)
7 = blue	DO[8] (npn)
8 = red	GND

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-UR5
/16.0
/17.0
/18.0
/19.0
/20.0
/21.0
/22.0
/23.0
/24.0
/25.0
/26.0
/27.0

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CB3

UR5

L
N
GND

TCP/IP

Supply
100-240 VAC
47-63 Hz

Data I/O

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Safety

Emergency Stop

Default connections

Safeguard Stop

Default connections

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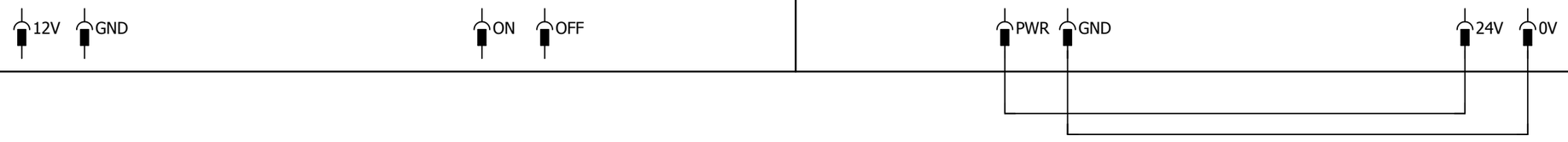
UNIVERSAL ROBOTS CB3 UR5

Remote	Power



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Configurable Inputs

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UNIVERSAL ROBOTS CB3 UR5

Configurable Inputs

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UNIVERSAL ROBOTS CB3 UR5

Configurable Outputs

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UNIVERSAL ROBOTS CB3 UR5

Configurable Outputs

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Digital Inputs

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Digital Inputs

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UNIVERSAL ROBOTS CB3 UR5

Digital Outputs

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Digital Outputs

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Analog I/O (is not galvanically isolated from Control Box)

Analog Inputs

Analog Outputs

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/15.0

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Tools connector Inputs/Outputs

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