

ROBOTICS

Product specification

Robot user documentation, IRC5 with
RobotWare 6



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Product specification
Robot user documentation, IRC5 with RobotWare 6

24B/RobotWare 6.15

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Overview of this specification

About this product specification

This specification lists all active user documentation for ABB Robotics global products with IRC5 and RobotWare 6.

Revisions

Revision	Description
-	Released in October 2014, R14.2. First release.
A	Released in April 2015, R15.1.
B	Released in October 2015, R15.2.
C	Released in December 2015, R15.2.
D	Released in March 2016, R16.1.
E	Released in June 2016, R16.1+.
F	Released in October 2016, R16.2.
G	Released in March 2017, R17.1.
H	Released in October 2017, R17.2.
J	Released in March 2018, R18.1.
K	Released in October 2018, R18.2.
L	Released in September 2019, R19C/RW 6.10.
M	Released in March 2020. Added links to all documents in myABB.
N	Released in April 2020, R20B/RW 6.11.
P	Released in April 2021, release 21A/RW 6.12.
Q	Released in December 2021, release 21D/RW 6.13.
R	Released in September 2022, release 22C/RW 6.14.
S	Released in December 2022, release 22D/RW 6.14.01.
T	Released in March 2023, release 23A/RW 6.15.
U	Released in October 2023, release 23C/RW 6.15.
V	Released in March 2024, release 24A/RW 6.15.
W	Released in June 2024, release 24B/RW 6.15.

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1 Introduction

1.1 Easy-to-use information products

Introduction to robot user documentation

The robot user documentation is aimed at all robot users, providing easy to use information and guidelines as well as in-depth descriptions and detailed reference literature. There is a robot user document for each stage of use, from installation and commissioning, through programming, operation and maintenance, to troubleshooting and decommissioning of your robot system.

ABB's group of skilled editors provide professional user documentation, ensuring efficient communication of robot expertise, from our engineers to your personnel.

Key benefits

- Easy-to-use user documentation
 - In-depth reference information
 - Detailed product information
 - Maintenance and service procedures
-

User documentation offer

The documentation offer includes the user documentation for all standard robotics products. The robot user documentation that is safety related is translated into 18 languages. Other translations are available depending on market. Documents that are not translated are available in English.

Updates of the documentation are released at every major product change (manipulators, controllers, and RobotWare).

The robot user documentation is available for all customers in myABB business portal (www.abb.com/myabb), using ABB Library.

1 Introduction

1.2 Types of manuals

1.2 Types of manuals

Operating manuals

The *operating manuals* are directed to persons with first hand contact with the robot system, that is production operators, programmers, and service personnel.

Technical reference manuals

The *technical reference manuals* include reference information for the products. The technical reference manuals for RAPID and system parameters describe the controller software. The manuals include syntax and detailed information on instructions, functions, and data types in the RAPID language and on system parameters.

Application manuals

The *application manuals* describe RobotWare base functionality and options, directed to specific applications, such as RobotWare Arc, Spot, Dispense, Integrated Vision. They can also describe options. The content includes:

- Purpose of the option: For what is the option intended?
 - What is included in the option, for example RAPID instructions, system parameters.
 - Which hardware is required, for example cables and I/O boards.
 - Setup, programming, and configuration examples.
-

Product manuals

There is a *product manual* for each manipulator and controller. The content includes:

- Safety information
 - Technical data
 - Installation and commissioning
 - Maintenance (maintenance schedules and preventive maintenance routines)
 - Repair (lists of spare parts and repair procedures)
 - Calibration procedures
 - Troubleshooting
 - Decommissioning procedures
 - Reference information
 - Part list or reference to separate spare part list
-

Safety manuals

The safety information in the product manuals is also combined into a general safety manual, which is translated to the same languages as the operating manual for the robot controller.

Continues on next page

Product specifications

There is a *product specification* for each product. The content varies depending type of product but usually includes:

- Description of the product, including technical data
- Variants and options

1 Introduction

1.3 Available languages

1.3 Available languages

Language codes

The manuals are available in the following languages (with matching subnumber).

Language	Language code	Subnumber	
English	en	1	001
Swedish	sv	2	002
German	de	3	003
French	fr	4	004
Spanish	es	5	005
Portugese	pt	6	006
Italian	it	7	007
Danish	da	8	008
Dutch	nl	9	009
Chinese (simplified)	zh or zh-cn	10	010
Korean	ko	11	011
Japanese	ja	12	012
Finnish	fi	13	013
Czech	cs or cz	14	014
Polish	pl	15	015
Russian	ru	16	016
Hungarian	hu	17	017
Turkish	tr	18	018
Slovenian	sl	19	019

2 Robotics user manuals

2.1 Operating manuals



Note

For some of the documentation, you must be logged in to myABB business portal (www.abb.com/myabb) to access the links. ABB internal users must be logged into ABB download center.

IRC5, manipulators, and RobotStudio

Title	Article number
Operating manual - IRC5 with FlexPendant (English , Swedish , German , French , Spanish , Portuguese , Italian , Danish , Dutch , Chinese , Korean , Japanese , Finnish , Czech , Polish , Russian , Turkish , Slovenian)	3HAC050941-001
Operating manual - IRC5 Integrator's guide (English)	3HAC050940-001
Operating manual - RobotStudio (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC032104-001
Operating manual - Troubleshooting IRC5 (English , Swedish , German , French , Spanish , Portuguese , Italian , Danish , Dutch , Chinese , Korean , Japanese , Finnish , Czech , Polish , Russian , Turkish , Slovenian)	3HAC020738-001
Operating manual - Calibration Pendulum (English , German , French , Spanish , Italian , Chinese , Korean)	3HAC16578-1
Operating manual - IRB 14000 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC052986-001

Options, PowerPacs, and Add-Ins

Title	Article number
Operating manual - Service Information System (English , German , French , Spanish , Italian)	3HAC050944-001
Operating manual - Seam tracking with Weldguide III and MultiPass (English , German , French , Spanish , Italian)	3HEA802921-001
Operating manual - Seam tracking with Weldguide IV and MultiPass (English , German , French , Spanish , Italian)	3HAC054886-001
Operating Manual - ArcWelding PowerPac (English)	3HAC028931-001
Operating manual - ArcWelding2 PowerPac (English)	3HAC071361-001

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2 Robotics user manuals

2.1 Operating manuals

Continued

Title	Article number
<i>Operating manual - Machining PowerPac - CAM Converter Functionality</i> (English)	3HAC050262-001
<i>Operating Manual - Machining PowerPac</i> (English)	3HAC030420-001
<i>Operating manual - Machining PowerPac - Machining Functionality</i> (English)	3HAC054781-001
<i>Operating manual - Palletizing PowerPac</i> (English)	3HAC042340 -1
<i>Operating manual - RobotWare Machine Tending</i> (English)	3HAC044397-001
<i>Operating manual - Tracking and searching with optical sensors</i> (English)	3HAC055269-001

2.2 Technical reference manuals

**Note**

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RobotWare

Title	Article number
<i>Technical reference manual - RAPID Instructions, Functions and Data types</i> (English , German , French , Spanish , Italian , Chinese , Czech)	3HAC050917-001
<i>Technical reference manual - RAPID kernel</i> (English , Chinese , Czech)	3HAC050946-001
<i>Technical reference manual - RAPID Overview</i> (English , German , French , Spanish , Italian , Chinese , Czech)	3HAC050947-001
<i>Technical reference manual - System parameters</i> (English , German , French , Spanish , Italian , Chinese)	3HAC050948-001

Manipulators

Title	Article number
<i>Technical reference manual - Lubrication in gearboxes</i> (English , German , French)	3HAC042927-001

2 Robotics user manuals

2.3 Application manuals

2.3 Application manuals



Note

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Hardware options

Title	Article number
Application manual - Additional axes and standalone controller (English , German)	3HAC051016-001
Application manual - Electronic Position Switches (English , German , French , Spanish , Italian)	3HAC050996-001
Application manual - Functional safety and SafeMove2 (English , German , French , Spanish , Italian)	3HAC052610-001
Application manual - SafeMove1 (English , German , French , Spanish , Italian)	3HAC050974-001

Fieldbus and industrial network options

Title	Article number
Application manual - DeviceNet Master/Slave (English , German)	3HAC050992-001
Application manual - DeviceNet Anybus Slave (English , German)	3HAC050993-001
Application manual - EtherNet/IP Anybus Adapter (English , German)	3HAC050997-001
Application manual - EtherNet/IP Scanner/Adapter (English , German)	3HAC050998-001
Application manual - Scalable I/O (English , German , French , Spanish , Italian , Chinese)	3HAC059109-001
Note The title was changed in release 21A, from <i>Local I/O</i> to <i>Scalable I/O</i> .	
Application manual - PROFIBUS Anybus Device (English , German)	3HAC050965-001
Application manual - PROFIBUS Controller (English , German)	3HAC050966-001
Application manual - PROFInergy Device (English , German)	3HAC050967-001
Application manual - PROFINET Anybus Device (English , German)	3HAC050968-001

Continues on next page

Title	Article number
Application manual - PROFINET Controller/Device (English , German)	3HAC065546-001

RobotWare options

Title	Article number
Application manual - Continuous Application Platform (English)	3HAC050990-001
Application manual - Controller software IRC5 (English , German , Chinese)	3HAC050798-001
Application manual - Conveyor tracking (English , German)	3HAC050991-001
Application manual - Discrete Application Protocol (English)	3HAC050994-001
3HAC073319-001 (English , German , Chinese)	3HAC073319-001
Application manual - Force Control (English)	3HAC050377-001
Application manual - Integrated Vision (English , German , French , Spanish , Chinese , Japanese)	3HAC044251-001
Application manual - MultiMove (English , German , French , Spanish , Italian , Chinese)	3HAC050961-001
Application manual - RobotWare Add-Ins (English)	3HAC051193-001
Application manual - SoftMove (English)	3HAC050977-001
Application manual - Production Screen (English)	3HAC050964-001

PC software

Title	Article number
Application manual - PickMaster 3 (English , German , French , Spanish , Italian , Japanese)	3HAC031978-001
Application manual - PickMaster 5 (English)	3HAC025829-001
Application manual - IRC5 OPC Server help (English)	3HAC023113-001

Arc welding

Title	Article number
Application manual - Arc and Arc Sensor (English , German)	3HAC050988-001

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2 Robotics user manuals

2.3 Application manuals

Continued

Title	Article number
Application manual - BullsEye (English , German)	3HAC050989-001
Application manual - Fronius TPS 320i/400i/500i/600i with RI-FB inside/i interface (English)	3HAC065012-001
Application manual - KEMPPi A7 MIG Welder 350/450 (English)	3HAC086375-001
Application manual - Laser Tracker Calibration Interface (English)	3HAC050957-001
Application manual - Lincoln ArcLink Interface and Weld Editor (English)	3HAC049194-001
Application manual - Miller Ethernet I/P Interface and Weld Editor (English)	3HAC054885-001
Application manual - Navigator (English)	3HAC050962-001
Application manual - Production Manager (English)	3HAC052855-001
Application manual - Production Monitor (English)	3HAC050963-001
Application manual - Programming Integrated Power Source (English)	3HAC050972-001
Application manual - Programming ABB RPC S-series Integrated Power Source (English , Chinese)	3HAC050970-001
Application manual - Programming Fronius power source (English)	3HAC050971-001
Application manual - Seam tracking with Fronius TPS/i (English)	3HAC069002-001
Application manual - Signal description for arc welding products (English)	3HAC050975-001
Application manual - SKS Interface with Feldbus 5 (English , German)	3HAC054884-001
Application manual - SmarTac (English , German)	3HAC050976-001
Application manual - Torch services (English)	3HAC050981-001
Application manual - Weld Data Monitor (English)	3HAC050983-001
Application manual - WireSense for Fronius TPS/i (English)	3HAC082151-001

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Spot welding

Title	Article number
<i>Application manual - Mechanical Unit Manager</i> (English)	3HAC050959-001
<i>Application manual - Servo Gun Setup</i> (English)	3HAC065014-001
<i>Application manual - Spot options</i> (English , German)	3HAC050979-001
<i>Application manual - Tool change support</i> (English)	3HAC050980-001

Dispense

Title	Article number
<i>Application manual - Dispense</i> (English , German)	3HAC050995-001

2 Robotics user manuals

2.4 Product manuals

2.4 Product manuals



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Controllers

Title	Article number
Product manual - IRC5 (English , German , French , Spanish , Italian , Japanese , Polish , Russian , Czech)	3HAC047136-001 IRC5 of design 16
Product manual - IRC5 Compact (English , German , French , Spanish , Italian , Chinese , Czech)	3HAC047138-001 IRC5 of design 16
Product manual - IRC5 Panel Mounted Controller (English , German , French , Spanish , Italian , Czech)	3HAC047137-001 IRC5 of design 16

Manipulators

Title	Article number
Product manual - IRB 360 (English , German , French , Spanish , Italian , Chinese , Korean , Japanese)	3HAC030005-001
Product manual, spare parts - IRB 360 (English)	3HAC049101-001
Product manual - IRB 390 (English , German , French , Spanish , Italian , Chinese)	3HAC066566-001
Product manual, spare parts - IRB 390 (English , German , French , Spanish , Italian , Chinese)	3HAC066567-001
Product manual - IRB 460 (English , German , French , Spanish , Italian , Chinese)	3HAC039842-001
Product manual, spare parts - IRB 460 (English)	3HAC040628-001
Product manual - IRB 660 (English , German , French , Spanish , Italian , Chinese , Russian)	3HAC025755-001
Product manual, spare parts - IRB 660 (English)	3HAC049102-001
Product manual - IRB 760 (English , German , French , Spanish , Italian , Japanese)	3HAC039838-001
Product manual, spare parts - IRB 760 (English)	3HAC040446-001
Product manual - IRB 1200 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC046983-001

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Title	Article number
Product manual, spare parts - IRB 1200 (English)	3HAC046984-001
Product manual - IRB 1510 (English , Chinese)	3HAC087870-001
Product manual, spare parts - IRB 1510 (English , Chinese)	3HAC087872-001
Product manual - IRB 1520 (English , German , French , Spanish , Italian , Chinese)	3HAC043435-001
Product manual, spare parts - IRB 1520 (English)	3HAC043436-001
Product manual - IRB 1600/1660 (English , German , French , Spanish , Italian , Chinese , Polish)	3HAC026660-001
Product manual, spare parts - IRB 1600/1660 (English , Chinese)	3HAC049104-001
Product manual - IRB 2400 (English , German , French , Spanish , Italian)	3HAC022031-001
Product manual, spare parts - IRB 2400 (English)	3HAC049105-001
Product manual - IRB 2600 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC035504-001
Product manual, spare parts - IRB 2600 (English , Chinese)	3HAC049106-001
Product manual - IRB 4400 (English , German , French , Spanish , Italian)	3HAC022032-001
Product manual, spare parts - IRB 4400 (English)	3HAC049107-001
Product manual - IRB 4600 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC033453-001
Product manual - IRB 4600 Foundry Prime (English , German , French , Spanish , Italian)	3HAC040585-001
Product manual, spare parts - IRB 4600 (English , Chinese)	3HAC049108-001
Product manual - IRB 6620 (English , German , French , Spanish , Italian)	3HAC027151-001
Product manual, spare parts - IRB 6620 (English)	3HAC049109-001
Product manual - IRB 6650S (English , German , French , Spanish , Italian , Japanese , Polish)	3HAC020993-001
Product manual, spare parts - IRB 6650S (English)	3HAC049111-001
Product manual - IRB 6660 (English , German , French , Spanish , Italian)	3HAC028197-001

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2 Robotics user manuals

2.4 Product manuals

Continued

Title	Article number
Product manual, spare parts - IRB 6660 (English)	3HAC049112-001
Product manual - IRB 6700 (English , German , French , Spanish , Italian , Chinese , Polish , Russian)	3HAC044266-001
Product manual - IRB 6700Inv / IRB 6700I (English , German , French , Spanish , Italian , Chinese)	3HAC058254-001
Product manual, spare parts - IRB 6700/IRB 6700Inv (English , German , French , Spanish , Italian , Chinese , Polish , Russian)	3HAC044268-001
Product manual - IRB 6790 Foundry Prime (English , German , French , Spanish , Italian , Chinese , Russian)	3HAC063331-001
Product manual, spare parts - IRB 6790 (English , German , French , Spanish , Italian , Chinese , Russian)	3HAC064429-001
Product manual - IRB 7600 (English , German , French , Spanish , Italian , Polish)	3HAC022033-001
Product manual, spare parts - IRB 7600 (English)	3HAC049113-001
Product manual - IRB 8700 (English , German , French , Spanish , Italian , Japanese , Polish)	3HAC052853-001
Product manual, spare parts - IRB 8700 (English , German , French , Spanish , Italian , Polish)	3HAC052854-001
Product manual - IRB 14000 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC052983-001
Product manual, spare parts - IRB 14000 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC052984-001
Product manual - Grippers for IRB 14000 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC054949-001

Application equipment

Title	Article number
Assembly Instructions - Torch Cleaner (TC 2013) / Torch Service Centre (TSC 2013) (English , German)	3HDA000057A8519-001
Product manual - DressPack IRB 6620 (English , German , French , Spanish , Italian)	3HAC027309-001
Product manual - DressPack IRB 6650S (English , German , French , Spanish , Italian)	3HAC055424-001
Product manual - DressPack IRB 6700 (English , German , French , Spanish , Italian)	3HAC044270-001

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Title	Article number
Product manual - DressPack IRB 7600 (English , German , French , Spanish , Italian)	3HAC056372-001
Product manual - DressPack IRB 8700 (English , German , French , Spanish , Italian)	3HAC055802-001
Product manual - Arc welding equipment for IRB 1520ID (English , German , French , Spanish , Italian , Chinese)	3HAC043438-001
Product manual - Integrated Force Control (English)	3HAC048488-001
Product manual - Motor Units and Gear Units (English , German , French , Spanish , Italian , Chinese)	Document.ID-1
Product manual, spare parts - Motor Units and Gear Units (English)	3HAC040278-001
Product manual - Product.ProductName /D2009 (English , German , French , Spanish , Italian)	3HAC037731-001
Product manual, spare parts - IRBP /D2009 (English)	3HAC038416-001
Product manual - IRBT 2005 (English , German , French , Spanish , Italian , Chinese)	3HAC051130-001
Product manual, spare parts - IRBT 2005 (English)	3HAC051132-001
Product manual - IRBT 4004/6004/7004 (English , German , French , Spanish , Italian)	3HAC028506-001
Product manual, spare parts - IRBT 4004/6004/7004 (English , German , French , Spanish , Italian)	3HAC042864-001
Product manual - IRT 710 (English , German , French , Chinese)	3HKA00000186299-001
Product manual, spare parts - IRT 710 (English , German , French , Chinese)	3HKA00000189761-001

2 Robotics user manuals

2.5 Safety manuals

2.5 Safety manuals



Note

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Robot

Title	Article number
<i>Safety manual for robot - Manipulator and IRC5 or OmniCore controller</i> (English , Swedish , German , French , Spanish , Portuguese , Italian , Danish , Dutch , Chinese , Korean , Japanese , Finnish , Czech , Polish , Russian , Turkish , Slovenian)	3HAC031045-001
<i>Operating manual - Emergency safety information</i> (English , Swedish , German , French , Spanish , Portuguese , Italian , Danish , Dutch , Chinese , Korean , Japanese , Finnish , Czech , Polish , Russian , Hungarian , Turkish , Slovenian)	3HAC027098-001

2.6 Product specifications



Note

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Controllers

Title	Article number
Product specification - Controller IRC5 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC047400-001
Product specification - Controller software IRC5 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC050945-001 RobotWare 6

Manipulators

Title	Article number
Product specification - IRB 360 (English , German , French , Spanish , Italian , Japanese)	3HAC029963-001
Product specification - IRB 390 (English , German , French , Spanish , Italian , Chinese , Korean)	3HAC066568-001
Product specification - IRB 460 (English , German , French , Spanish , Italian , Chinese)	3HAC039611-001
Product specification - IRB 660 (English , German , French , Spanish , Italian)	3HAC023932-001
Product specification - IRB 760 (English , German , French , Spanish , Italian)	3HAC039612-001
Product specification - IRB 1200 (English , German , French , Spanish , Italian , Chinese)	Document.ID-1
Product specification - IRB 1510 (English , Chinese)	3HAC087871-001
Product specification - IRB 1520 (English , German , French , Spanish , Italian , Chinese)	3HAC043437-001
Product specification - IRB 1600/1660 (English , German , French , Spanish , Italian)	3HAC023604-001
Product specification - IRB 2400 (English , German , French , Spanish , Italian)	3HAC042195-001
Product specification - IRB 2600 (English , German , French , Spanish , Italian , Japanese)	Document.ID-1
Product specification - IRB 4400 (English , German , French , Spanish , Italian)	3HAC042478-001

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2 Robotics user manuals

2.6 Product specifications

Continued

Title	Article number
Product specification - IRB 4600 (English , German , French , Spanish , Italian , Chinese , Japanese)	Document.ID-1
Product specification - IRB 6620 (English , German , French , Spanish , Italian)	3HAC025861-001
Product specification - IRB 6650S (English , German , French , Spanish , Italian)	Document.ID-1
Product specification - IRB 6660 (English , German , French , Spanish , Italian)	3HAC028207-001
Product specification - IRB 6700 (English , German , French , Spanish , Italian , Russian)	Document.ID-1
Product specification - IRB 6790 Foundry Prime (English , German , French , Spanish , Italian)	3HAC064168-001
Product specification - IRB 7600 (English , German , French , Spanish , Italian)	3HAC023934-001
Product specification - IRB 8700 (English , German , French , Spanish , Italian , Japanese)	Document.ID-1
Product specification - IRB 14000 (English , German , French , Spanish , Italian , Chinese , Japanese)	3HAC052982-001

Application equipment

Title	Article number
Product specification - Integrated Vision (English)	3HAC044266-001
Product specification - Motor Units and Gear Units (English , German , French , Spanish , Italian , Chinese)	Document.ID-1
Product specification - Product.ProductName (English , German , French , Spanish , Italian)	Document.ID-1
Product specification - IRBT 2005 (English , German , French , Spanish , Italian , Chinese)	3HAC051131-001
Product specification - IRBT 4004/6004/7004 (English , German , French , Spanish , Italian)	3HEA802965-001
Product specification - IRT 710 (English , German , French , Chinese)	3HKA00000191844-001

Software

Title	Article number
Product specification - PickMaster® 3 (English)	3HAC041347-001
Product specification - Palletizing PowerPac (English)	3HAC041431-001

Continues on next page

Title	Article number
<i>Product specification - RobotStudio</i> (English)	<i>3HAC026932-001</i>

2 Robotics user manuals

2.7 Circuit diagrams

2.7 Circuit diagrams

Controllers

Title	Article number
<i>Circuit diagram - IRC5</i> (English)	3HAC024480-011
<i>Circuit diagram - IRC5 Compact</i> (English)	3HAC049406-003
<i>Circuit diagram - IRC5 Panel Mounted Controller</i> (English)	3HAC026871-020

Manipulators

Title	Article number
<i>Circuit diagram - IRB 1200</i> (English)	3HAC046307-003
<i>Circuit diagram - IRB 360</i> (English)	3HAC028647-009
<i>Circuit diagram - IRB 390</i> (English)	3HAC060545-009
<i>Circuit diagram - IRB 460</i> (English)	3HAC036446-005
<i>Circuit diagram - IRB 660</i> (English)	3HAC025691-001
<i>Circuit diagram - IRB 760</i> (English)	3HAC025691-001
<i>Circuit diagram - IRB 1410</i> (English)	3HAC2800-3
<i>Circuit diagram - IRB 1510</i> (English)	3HAC087368-003
<i>Circuit diagram - IRB 1520</i> (English)	3HAC039498-007
<i>Circuit diagram - IRB 1600/1660</i> (English)	3HAC021351-003
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