

Product manual, spare parts Motor Units and Gear Units

Trace back information:
Workspace R17-1 version a7
Checked in 2017-03-22
Skribenta version 5.1.011

Product manual, spare parts

**MU 100, MU 200, MU 250, MU 300, MU 400
MTD 250, MTD 500, MTD 750, MTD 2000, MTD 5000
MID 500, MID 1000**

IRC5

Document ID: 3HAC040278-001

Revision: D

The information in this manual is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this manual.

Except as may be expressly stated anywhere in this manual, nothing herein shall be construed as any kind of guarantee or warranty by ABB for losses, damages to persons or property, fitness for a specific purpose or the like.

In no event shall ABB be liable for incidental or consequential damages arising from use of this manual and products described herein.

This manual and parts thereof must not be reproduced or copied without ABB's written permission.

Keep for future reference.

Additional copies of this manual may be obtained from ABB.

Original instructions.

© Copyright 2017 ABB. All rights reserved.

ABB AB, Robotics
Robotics and Motion
Se-721 68 Västerås
Sweden

Table of contents

Overview of this manual	7
Product documentation, IRC5	8
1 Spare parts	11
1.1 Spare parts for motor units	11
1.2 Spare parts for gear units	13
1.3 Spare parts for SMB boxes	16
1.4 Spare parts for cables	17

This page is intentionally left blank

Overview of this manual

About this manual

This manual describes the spare parts for motor units and gear units.

- MU 100, MU 200, MU 250, MU 300, MU 400
- MTD 250, MTD 500, MTD 750, MTD 2000, MTD 5000, MID 500, MID 1000

Who should read this manual?

This manual is intended for:

- Installation personnel.
- Maintenance personnel.
- Repair personnel.

Prerequisites

Maintenance/repair/installation personnel working with an ABB Robot must be trained by ABB and have the required knowledge of mechanical and electrical installation/repair/maintenance work.

References

Reference	Document ID
<i>Product manual - Motor Units and Gear Units</i>	3HAC040148-001
<i>Product specification - Motor Units and Gear Units</i>	3HAC040147-001
<i>Circuit diagram - Motor Units and Gear Units</i>	3HAC039887-001

Revisions

Revision	Description
-	First revision. MU 100, MU 200, and MU 300 replaces MU10, MU20, and MU30.
A	The following additions and corrections are made: <ul style="list-style-type: none">• New SMB
B	The following additions and corrections are made: <ul style="list-style-type: none">• Updated spare part numbers.• New spare part numbers for gearboxes and motors, added, valid from these serial numbers, onwards: SEROP POF-110001- and CNAUS POF-510001-
C	The following additions and corrections are made: <ul style="list-style-type: none">• Serial number changed throughout the manual.• Minor updates• Section Spare parts for cables on page 17 restructured to better explain where the different cables are used.
D	Published in release R17.1. The following updates are done in this revision: <ul style="list-style-type: none">• New spare part number for gearbox including motor MTD 500.• Generally modified due to update of BOL.• Added MU 250.

Product documentation, IRC5

Categories for user documentation from ABB Robotics

The user documentation from ABB Robotics is divided into a number of categories. This listing is based on the type of information in the documents, regardless of whether the products are standard or optional.

All documents listed can be ordered from ABB on a DVD. The documents listed are valid for IRC5 robot systems.

Product manuals

Manipulators, controllers, DressPack/SpotPack, and most other hardware is delivered with a **Product manual** that generally contains:

- Safety information.
- Installation and commissioning (descriptions of mechanical installation or electrical connections).
- Maintenance (descriptions of all required preventive maintenance procedures including intervals and expected life time of parts).
- Repair (descriptions of all recommended repair procedures including spare parts).
- Calibration.
- Decommissioning.
- Reference information (safety standards, unit conversions, screw joints, lists of tools).
- Spare parts list with exploded views (or references to separate spare parts lists).
- Circuit diagrams (or references to circuit diagrams).

Technical reference manuals

The technical reference manuals describe reference information for robotics products.

- *Technical reference manual - Lubrication in gearboxes*: Description of types and volumes of lubrication for the manipulator gearboxes.
- *Technical reference manual - RAPID overview*: An overview of the RAPID programming language.
- *Technical reference manual - RAPID Instructions, Functions and Data types*: Description and syntax for all RAPID instructions, functions, and data types.
- *Technical reference manual - RAPID kernel*: A formal description of the RAPID programming language.
- *Technical reference manual - System parameters*: Description of system parameters and configuration workflows.

Continues on next page

Application manuals

Specific applications (for example software or hardware options) are described in **Application manuals**. An application manual can describe one or several applications.

An application manual generally contains information about:

- The purpose of the application (what it does and when it is useful).
- What is included (for example cables, I/O boards, RAPID instructions, system parameters, DVD with PC software).
- How to install included or required hardware.
- How to use the application.
- Examples of how to use the application.

Operating manuals

The operating manuals describe hands-on handling of the products. The manuals are aimed at those having first-hand operational contact with the product, that is production cell operators, programmers, and trouble shooters.

The group of manuals includes (among others):

- *Operating manual - Emergency safety information*
- *Operating manual - General safety information*
- *Operating manual - Getting started, IRC5 and RobotStudio*
- *Operating manual - IRC5 Integrator's guide*
- *Operating manual - IRC5 with FlexPendant*
- *Operating manual - RobotStudio*
- *Operating manual - Trouble shooting IRC5*

This page is intentionally left blank

1 Spare parts

1.1 Spare parts for motor units

Motor units

Components valid from these serial numbers, onwards:

SEROP: MUGU-110001 -

CNAUS: MUGU-510001 -



Note

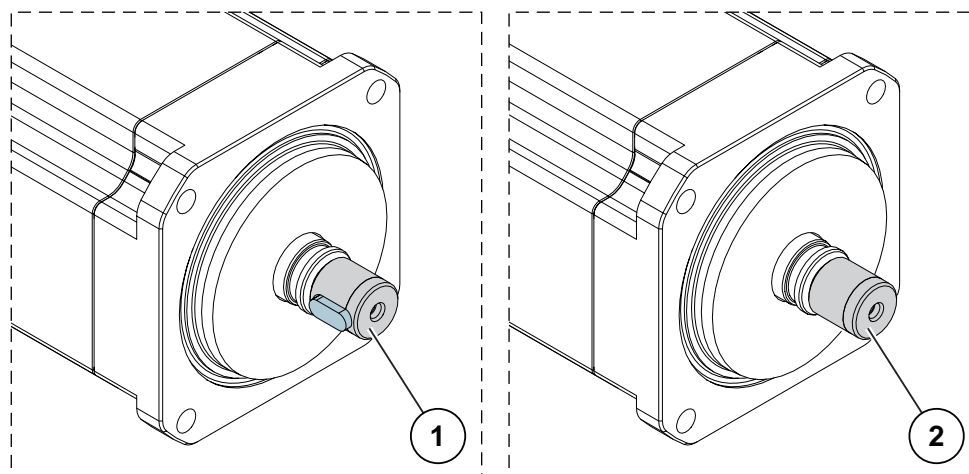
Before ordering these components, make sure that they match the serial number of the IRBP.

Motor units	Article number	
	Graphite White	ABB Orange
MU 100 ⁱ	3HAC040655-002	-
MU 200 ⁱ	3HAC040656-002 (type A)	3HAC040656-003 (type A)
MU 200 with smooth shaft adaptor ⁱⁱ	3HAC061548-003	3HAC061548-004
MU 250 ⁱ	3HAC061305-004	3HAC061305-005
MU 300 ⁱ	3HAC040657-002 (type A)	3HAC040657-003 (type A)
MU 400 ⁱ	3HAC040658-002	-

ⁱ Use shaft adaptor with key.

ⁱⁱ Use smooth shaft adaptor.

Confirm the type of the shaft adaptor.



xx1700000589

1 Shaft adaptor with key

2 Smooth shaft adaptor

Continues on next page

1 Spare parts

1.1 Spare parts for motor units

Continued

Components valid up to these serial numbers:

SEROP: - MUGU-110000

CNAUS: - MUGU-510000



Note

Before ordering these components, make sure that they match the serial number of the IRBP.

Motor units	Article number	
	Graphite White	ABB Orange
MU 100	-	3HAC040655-001
MU 200	-	3HAC040656-001
MU 300	-	3HAC040657-001
MU 400	-	3HAC040658-001

1.2 Spare parts for gear units

Gear units

Components valid from these serial numbers, onwards:

SEROP: MUGU-110001 -

CNAUS: MUGU-510001 -

**Note**

Before ordering these components, make sure that they match the serial number of the IRBP.

Gear units	Article number		
	Graphite White	ABB Orange	Dark grey
Gearbox MTD 250, including motor	3HAC035434-005	3HAC035434-007	-
Gearbox MTD 500, including motor	3HAC035436-005	3HAC035436-007	-
Gearbox MTD 750, including motor	3HAC035398-008	3HAC035398-012	-
Gearbox MTD 2000, including motor	3HAC035406-008	3HAC035406-012	-
Gearbox MTD 5000, including motor	3HAC035444-004	3HAC035444-006	-
Gearbox MID 1.1, including motor	-	-	3HAC035480-004
Gearbox MID 1.2, including motor	3HAC035398-007	3HAC035398-011	-
Gearbox MID 2.1, including motor	3HAC035406-007	3HAC035406-011	-
Gearbox MID 500, including motor	-	-	3HAC040682-002
Gearbox MID 1000, including motor	3HAC040683-002	3HAC040683-003	-

Components valid up to these serial numbers:

SEROP: - MUGU-110000

CNAUS: - MUGU-510000

**Note**

Before ordering these components, make sure that they match the serial number of the IRBP.

Gear units	Article number		
	Graphite White	ABB Orange	Black
Gearbox MTD 250, including motor	-	3HAC035434-003	
Gearbox MTD 500, including motor	-	3HAC035436-003	
Gearbox MTD 750, including motor	-	3HAC035398-004	
Gearbox MTD 2000, including motor	-	3HAC035406-004	
Gearbox MTD 5000, including motor	-	3HAC035444-002	
Gearbox MID 1.1, including motor	-	-	3HAC035480-002
Gearbox MID 1.2, including motor	-	3HAC035398-003	

Continues on next page

1 Spare parts

1.2 Spare parts for gear units

Continued

Gear units	Article number		
	Graphite White	ABB Orange	Black
Gearbox MID 2.1, including motor	-	3HAC035406-005	
Gearbox MID 500, including motor	-	-	3HAC040682-001
Gearbox MID 1000, including motor	-	3HAC040683-002	
Gearbox MID 1000, including motor	3HAC040683-003		

Motors

Components valid from these serial numbers, onwards:

SEROP: MUGU-110001 -

CNAUS: MUGU-510001 -



Note

Before ordering these components, make sure that they match the serial number of the IRBP.

Motor units	Article number	
	Graphite White	ABB Orange
Motor for MTD 250	3HAC038187-003	3HAC038187-004
Motor for MTD 500	3HAC038210-010	3HAC038210-014
Motor for MTD 750	3HAC038210-010	3HAC038210-014
Motor for MTD 2000	3HAC038210-009	3HAC038210-013
Motor for MTD 5000	3HAC038212-003	3HAC038212-004
Motor for MID 1.2	3HAC038210-007	3HAC038210-011
Motor for MID 2.1	3HAC038210-008	3HAC038210-012
Motor for MID 2.2	3HAC038210-008	3HAC038210-012

Components valid up to these serial numbers:

SEROP: - MUGU-110000

CNAUS: - MUGU-510000



Note

Before ordering these components, make sure that they match the serial number of the IRBP.

Motor units	Article number	
	Graphite White	ABB Orange
Motor for MTD 250	-	3HAC038187-002
Motor for MTD 500	-	3HAC038210-002
Motor for MTD 750	-	3HAC038210-002
Motor for MTD 2000	-	3HAC038210-003

Continues on next page

Motor units	Article number	
	Graphite White	ABB Orange
Motor for MTD 5000	-	3HAC038212-002
Motor for MID 1.2	-	3HAC038210-004
Motor for MID 2.1	-	3HAC038210-005
Motor for MID 2.2	-	3HAC038210-005

Connection boxes

Components valid from these serial numbers, onwards:

SEROP: MUGU-110001 -

CNAUS: MUGU-510001 -



Note

Before ordering these components, make sure that they match the serial number of the IRBP.

Connection boxes	Article number			
	Graphite White	ABB Orange	Dark grey	Black
Connection Box MTD 250	3HAC038188-003	3HAC038188-004	-	-
Connection Box MTD 500, MTD 750, MTD 2000, and MTD 5000	3HAC038209-003	3HAC038209-005	-	-

Components valid up to these serial numbers:

SEROP: - MUGU-110000

CNAUS: - MUGU-510000



Note

Before ordering these components, make sure that they match the serial number of the IRBP.

Connection boxes	Article number			
	Graphite White	ABB Orange	Dark grey	Black
Connection Box MTD 250	-	3HAC038188-002	-	-
Connection Box MTD 500, MTD 750, MTD 2000, and MTD 5000	-	3HAC038209-002	-	-

Isolation kits

Isolation kits	Article number
Isolation kit MTD 250	3HAC038213-002
Isolation kit MTD 500 - MTD 2000	3HAC038214-002
Isolation kit MTD 5000	3HAC038215-002

1 Spare parts

1.3 Spare parts for SMB boxes

1.3 Spare parts for SMB boxes

Parts

Parts	Article number
SMB replacement set	3HAC046686-003
SMB unit, RMU102	3HAC043904-001
Battery pack Can only be used with SMB unit 3HAC043904-001	3HAC044075-001
SMB box/MU	3HAC040654-001
BU harness	3HAC039980-001

1.4 Spare parts for cables

Motor cables

From IRC5 controller or IRC5 drive module to SMB box.

Motor cables	Article number	Length
Cable Motor A/B/C/D/K/R	3HAC035346-001	7 m
Cable Motor A/B/C/D/K/R	3HAC035346-003	15 m
Cable Motor A/B/C/D/K/R	3HAC035346-006	30 m

Flex cable from IRC5 controller to motor unit.

Power cables	Article number	Length
Power cable motor	3HAC040319-001	7 m
Power cable motor	3HAC040319-002	15 m
Power cable motor	3HAC040319-003	30 m

Flex cable from SMB box to motor unit or gear unit.

Power cables	Article number	Length
Power cable box-motor	3HAC039603-001	3 m
Power cable box-motor	3HAC039603-002	7 m
Power cable box-motor	3HAC039603-003	15 m

SMB cables

From IRC5 controller or IRC5 drive module to SMB box.

Control cables	Article number	Length
Control cable signal	3HAC2493-1	7 m
Control cable signal	3HAC2530-1	15 m
Control cable signal	3HAC2566-1	30 m

Resolver cables

Flex cable from SMB box to motor unit or gear unit or from IRB to motor unit.

FB cables	Article number	Length
FB Cable Box-Motor	3HAC039602-001	3 m
FB Cable Box-Motor	3HAC039602-002	7 m
FB Cable Box-Motor	3HAC039602-003	15 m

Contact us

ABB AB, Robotics
Robotics and Motion
S-721 68 VÄSTERÅS, Sweden
Telephone +46 (0) 21 344 400

ABB AS, Robotics
Robotics and Motion
Nordlysvegen 7, N-4340 BRYNE, Norway
Box 265, N-4349 BRYNE, Norway
Telephone: +47 22 87 2000

ABB Engineering (Shanghai) Ltd.
Robotics and Motion
No. 4528 Kangxin Highway
PuDong District
SHANGHAI 201319, China
Telephone: +86 21 6105 6666

ABB Inc.
Robotics and Motion
1250 Brown Road
Auburn Hills, MI 48326
USA
Telephone: +1 248 391 9000

www.abb.com/robotics