

MITSUBISHI CNC

MELDAS AC SERVO MR-S Series

MAINTENANCE MANUAL (MR-S2)
(MR-S3)

CONTENTS

I. MAINTENANCE MANUAL FOR MELDAS MR-S2 SERIES OF AC SERVO AMPLIFIERS	
1. OUTLINE OF S2 SERIES AC SERVO SYSTEM	I-1
1.1 FEATURES OF THE S2 SERIES SERVO SYSTEM	I-1
1.2 LIST OF S2 SERIES SERVO SYSTEMS	I-2
1.3 BLOCK DIAGRAM OF MR-S3 SERVO SYSTEM FUNCTIONS	I-3
2. REGULAR MAINTENANCE	I-4
2.1 INSTRUMENTS AND TOOLS USED FOR MAINTENANCE	I-4
2.2 REPLACING THE BATTERY	I-4
3. INSTALLATION AND ADJUSTMENT PROCEDURE	I-6
3.1 ENVIRONMENTAL CONDITIONS	I-6
3.2 INPUT POWER SUPPLY	I-6
3.3 MAIN CIRCUIT CONNECTION	I-7
3.4 OPTIONAL REGENERATIVE RESISTANCE CONNECTIONS	I-16
3.5 PRECAUTIONS ON INSTALLING THE SERVO AMPLIFIER	I-18
3.6 PRECAUTIONS ON INSTALLATION OF SERVO MOTOR AND DETECTOR	I-19
3.7 CHECKPOINTS FOR POWER ON AFTER INSTALLATION	I-23
4. TROUBLESHOOTING	I-25
4.1 7-SEGMENT DISPLAY	I-25
4.2 TROUBLESHOOTING	I-28
5. UNIT REPLACEMENT METHODS	I-60
5.1 CONTROL PRINTED CIRCUIT BOARD INSTALLATION/REMOVAL	I-60
5.2 DETECTOR MOUNTING METHOD	I-62
6. HARDWARE CHECK METHODS	I-63
6.1 CARD FUNCTIONS	I-63
6.2 HARDWARE SETTINGS AND CHECK PINS	I-65
7. DETAILS OF SERVO PARAMETER	I-77
8. ABSOLUTE POSITION SYSTEM	I-93
8.1 PARAMETERS FOR CONFIGURATING ABSOLUTE POSITION SYSTEM	I-93
8.2 PARAMETERS FOR DOG-TYPE ZERO POINT RETURN	I-94
8.3 CHECK PROCEDURE FOR ABSOLUTE POSITION DATA	I-94
8.4 WHEN THERE IS SOMETHING WRONG WITH THE ABSOLUTE POSITION COORDINATE SYSTEM	I-95
8.5 CHECKING THE ABSOLUTE POSITION DATA (THE ADDRESSES MAY DIFFER ACCORDING TO THE ROM VERSION)	I-95
8.6 ABSOLUTE POSITION DETECTION ALARMS	I-97

I I. MAINTENANCE MANUAL FOR MELDAS MR-S3 SERIES OF AC SERVO AMPLIFIERS

1. OUTLINE OF S3 SERIES AC SERVO SYSTEM	II-1
1.1 FEATURES OF THE S3 SERIES SERVO SYSTEM	II-1
1.2 LIST OF S3 SERIES SERVO SYSTEMS	II-2
1.3 BLOCK DIAGRAM OF MR-S3 SERVO SYSTEM FUNCTIONS	II-3
2. REGULAR MAINTENANCE	II-4
2.1 INSTRUMENTS AND TOOLS USED FOR MAINTENANCE	II-4
2.2 REPLACING THE BATTERY	II-4
3. INSTALLATION AND ADJUSTMENT PROCEDURE	II-4
3.1 ENVIRONMENTAL CONDITIONS	II-4
3.2 INPUT POWER SUPPLY	II-4
3.3 MAIN CIRCUIT WIRING	II-5
3.4 OPTIONAL REGENERATIVE RESISTANCE CONNECTIONS	II-10
3.5 PRECAUTIONS ON INSTALLING THE SERVO AMPLIFIER	II-12
3.6 PRECAUTIONS ON INSTALLATION OF SERVO MOTOR AND DETECTOR	II-12
3.7 CHECKPOINTS FOR POWER ON AFTER INSTALLATION	II-12
4. TROUBLESHOOTING	II-13
4.1 7-SEGMENT DISPLAY	II-13
4.2 TROUBLESHOOTING	II-14
5. UNIT REPLACEMENT METHODS	II-15
5.1 CONTROL PRINTED CIRCUIT BOARD INSTALLATION/REMOVAL	II-15
5.2 DETECTOR MOUNTING METHOD	II-16
6. HARDWARE CHECK METHODS	II-17
6.1 CARD FUNCTIONS	II-17
6.2 HARDWARE SETTINGS AND CHECK PINS	II-19
7. DETAILS OF SERVO PARAMETER	II-31
8. ABSOLUTE POSITION SYSTEM	II-31

APPENDIX

1.	CABLE DIAGRAMS	A-1
2.	CABLE SPECIFICATIONS	A-13
3.	MAIN CIRCUIT CONFIGURATION	A-25
4.	CHECKING THE MINIMUM ACCELERATION/DECELERATION TIME CONSTANT	A-31
5.	CHECKING THE POSITIONING REPEATABILITY	A-33
6.	DETERMINING THE COASTING WITH EMERGENCY STOP	A-40
7.	SERVO MOTOR SPECIFICATIONS	A-41
8.	DETECTOR SPECIFICATIONS	A-42