

MITSUBISHI industrial robot MELFA

『SD Series Robot Software』 Function addition version record

This is the version record of the function addition of MELFA SD series software.
The version that has been released so far is as follows.

SD version	SQ version	Release	memo
P1	N4	2008/01/11	First edition release
P1a	---	2008/01/17	
P1b	N4a	2008/03/05	
P2	N5	2008/05/23	
P3~P5	---	---	Missing number
P6	N6	2008/08/20	
P6a	---	2008/09/16	
P6b	---	2008/10/27	
P6d	N6d	2008/11/06	
---	N6e	2008/12/17	For T Co.(special customer)RV-18SQC-S01 →integrates it into N7. (There is T Co. Copy exactly)
P6k	---	2009/03/25	PROFIBUS
P7	N7	2009/05/28	
P7a	N7a	2009/07/23	
---	N7b	2009/08/20	SQ CE marking.
P8a	N8a	2009/11/25	
P8d	N8d	2010/02/03	RV-2SD model addition.
P8f	N8f	2010/03/24	The N7b version is integrated into a standard version.
S1	R1	2010/05/10	Multi base function / Direct drive motor. For EasyBuilder (Cognex corp. vision sensor).
S1c	R1c	2010/07/28	RH-6SxH/12SxH (Z-axis Long model). RH-20SxH85xx series. RV-12Sx -S3xx series.
S1d	R1d	2010/08/30	
S1t	R1t	2010/12/08	
S1w	R1w	2011/02/25	For Y.company.(special customer) RH-3S*HR3515-SFY
S2a	R2a	2011/05/20	
S2d	R2d	2011/06/14	
S2g	R2g	2011/07/14	
S2m	R2m	2011/09/08	RV-12SD*-SUL3xx The time setting of the filter for the double check system signal was changed.
S3	R3	2012/01/12	
S3a	R3a	2012/01/27	RH-3FH / 6FH series. RH-3S*HR ceiling mounted robot . (Clean /Waterproof specification) Intelligent solution. Some bug fixed.
S3b	R3b	2012/02/29	For C. company.(special customer) Electric hand. Some bug fixed.
S3c	R3c	2012/03/28	For MC. company.(special customer). RH-60L3QHBC-S01
S3e	R3e	2012/04/24	RH-12FH / 20FH series, RV-2F series. Some bug fixed.
S3g	R3g	2012/05/31	RP-1/3/5ADH (D type only). MR-J4 (MR-J3 compatible mode) was supported. Some added function and bug fixed.
S3h	R3h	2012/06/15	RH-12FH/20FH series, the specification of the argument value for the overload detection calculation is changed.
S3j	R3j	2012/07/20	Some bug fixed.
S3m	R3m	2012/09/25	RV-4F / 7F series.
S3n	R3n	2012/12/10	
S3p	R3p	2013/02/28	RV-13F / 13FL series.

1. Function addition

As for this version, the following functions are added from version S3n.

(1) RV-13F / 13FL series were added.

No	機種名(*:Q/D)	接続RC(*:Q/D)	備考
1	RV-13F-*	CR750-*/ CR751-*	13kg Standard
2	RV-13FC-*		13kg Clean spec.
3	RV-13FM-*		13kg Oil mist spec.
4	RV-13FL-*		13kg Long arm
5	RV-13FLC-*		13kg Long arm, Clean spec.
6	RV-13FLM-*		13kg Long arm, Oil mist spec.

(2) For special customer, RH-2FH2515 is added.

(3) For special customer, Ethernet real time monitor function is added.

(4) For special customer, Sense of force inspection function is added.

(5) For pseudo input of hand input signals.

(6) Specification of parameter of net vision "NVLOAD" instruction time-out value.

(7) GOT's enhanced function (Reading and writing of real number variable).

(8) Stop of program execution when emergency stops immediately.

(9) M_RCInfo() variable of robot state (temperature reading in temperature of encoder and controller board).

2. Function addition

As for this version, the following functions are added from version S3m.

(1) The STOP2 mode of a WTHIF command

(2) Detailed error number (9 figures) variable M_ErCode

(3) Base protection of RV-4F/7F series (wide angle limit)

(4) Motor overheat warning

(5) Backup necessity at the time of H level error.

(6) Program autosave invalidity at the time of operation

1. Function addition

As for this version, the following functions are added from version S3j.

(1) RV-4F / 7F series were added.

No	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RV-4F-*	CR750-* / CR751-*	4kg standard
2	RV-4F-*-SH		4kg Internal routing of hand wiring and wiring channels
3	RV-4FC-*		4kg Clean spec.
4	RV-4FM-*		4kg Oil mist spec.
5	RV-4FL-*		4kg Long arm
6	RV-4FL-*-SH		4kg Long arm, Internal routing of hand wiring
7	RV-4FLC-*		4kg Long arm, Clean spec.
8	RV-4FLM-*		4kg Long arm, Oil mist spec.
9	RV-7F-*	CR750-* / CR751-*	7kg standard
10	RV-7F-*-SH		7kg Internal routing of hand wiring and wiring channels
11	RV-7FC-*		7kg Clean spec.
12	RV-7FM-*		7kg Oil mist spec.
13	RV-7FL-*		7kg Long arm
14	RV-7FL-*-SH		7kg Long arm, Internal routing of hand wiring
15	RV-7FLC-*		7kg Long arm, Clean spec.
16	RV-7FLM-*		7kg Long arm, Oil mist spec.

- (2) For micro motor MR-J3W-0303BN6
- (3) RH-6FH**34M/C : J3 axis limit is changed.
- (4) RH-12FH series : Adjustment of allophone of J3 axis(parameter correction)

S3j

2012/07/20

1. Function addition

Nothing

S3h

2012/06/13

1. Function addition

- (1) RH-12FH/20FH series, the specification of the argument value for the overload detection calculation is changed.

2. Bug correction

Nothing

S3g

2012/05/31

1. Function addition

As for this version, the following functions are added from version S3e.

- (1) RP-1/3/5ADH were added.

No	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RP-1ADH	CR1DA-7A1-S15	Micro Robot / Payload 1Kg / D Type only
2	RP-3ADH	CR1DA-7A1-S15	Micro Robot / Payload 3Kg / D Type only
3	RP-5ADH	CR1DA-7A1-S15	Micro Robot / Payload 5Kg / D Type only

- (2) Improvement of electric hand function. (Hand servo ON/OFF command 'EHServo' were added.)
- (3) For switching the specification of base coordinates in free plane limit function.
- (4) For MR-J4 amplifier (MR-J3 compatible mode) was supported.
- (5) The level of opening to the public of "MVTERM" parameter is changed to the user.

MVTERM : Specification of movement in 'CNT 0'

1. Function addition

As for this version, the following functions are added from version S3c

(1) RH-12FH / 20FH series were added.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RH-12FH5535-*	CR750-12H*	12Kg, arm 550mm, Z stroke350mm
2	RH-12FH7035-*	CR750-12H*	12Kg, arm 700mm, Z stroke350mm
3	RH-12FH8535-*	CR750-12H*	12Kg, arm 850mm, Z stroke350mm
4	RH-12FH5535M-*	CR750-12H*	12Kg, arm 550mm, Z stroke350mm, Oil mist spec.
5	RH-12FH7035M-*	CR750-12H*	12Kg, arm 700mm, Z stroke350mm, Oil mist spec.
6	RH-12FH8535M-*	CR750-12H*	12Kg, arm 850mm, Z stroke350mm, Oil mist spec.
7	RH-12FH5535M-*SM	CR750-12H*+mist BOX	12Kg, arm 550mm, Z stroke350mm, Oil mist spec. + mist box
8	RH-12FH7035M-*SM	CR750-12H*+mist BOX	12Kg, arm 700mm, Z stroke350mm, Oil mist spec. + mist box
9	RH-12FH8535M-*SM	CR750-12H*+mist BOX	12Kg, arm 850mm, Z stroke350mm, Oil mist spec. + mist box
10	RH-12FH5535C-*	CR750-12H*	12Kg, arm 550mm, Z stroke350mm, Clean spec.
11	RH-12FH7035C-*	CR750-12H*	12Kg, arm 700mm, Z stroke350mm, Clean spec.
12	RH-12FH8535C-*	CR750-12H*	12Kg, arm 850mm, Z stroke350mm, Clean spec.
13	RH-12FH5545-*	CR750-12H*	12Kg, arm 550mm, Z stroke450mm
14	RH-12FH7045-*	CR750-12H*	12Kg, arm 700mm, Z stroke450mm
15	RH-12FH8545-*	CR750-12H*	12Kg, arm 850mm, Z stroke450mm
16	RH-12FH5545M-*	CR750-12H*	12Kg, arm 550mm, Z stroke450mm, Oil mist spec.
17	RH-12FH7045M-*	CR750-12H*	12Kg, arm 700mm, Z stroke450mm, Oil mist spec.
18	RH-12FH8545M-*	CR750-12H*	12Kg, arm 850mm, Z stroke450mm, Oil mist spec.
19	RH-12FH5545M-*SM	CR750-12H*+mist BOX	12Kg, arm 550mm, Z stroke450mm, Oil mist spec. + mist box
20	RH-12FH7045M-*SM	CR750-12H*+mist BOX	12Kg, arm 700mm, Z stroke450mm, Oil mist spec. + mist box
21	RH-12FH8545M-*SM	CR750-12H*+mist BOX	12Kg, arm 850mm, Z stroke450mm, Oil mist spec. + mist box
22	RH-12FH5545C-*	CR750-12H*	12Kg, arm 550mm, Z stroke450mm, Clean spec.
23	RH-12FH7045C-*	CR750-12H*	12Kg, arm 700mm, Z stroke450mm, Clean spec.
24	RH-12FH8545C-*	CR750-12H*	12Kg, arm 850mm, Z stroke450mm, Clean spec.
25	RH-20FH8535-*	CR750-20H*	20Kg, arm 850mm, Z stroke350mm
26	RH-20FH10035-*	CR750-20H*	20Kg, arm 1000mm, Z stroke350mm
27	RH-20FH8535M-*	CR750-20H*	20Kg, arm 850mm, Z stroke350mm, Oil mist spec.
28	RH-20FH10035M-*	CR750-20H*	20Kg, arm 1000mm, Z stroke350mm, Oil mist spec.
29	RH-20FH8535M-*SM	CR750-20H*+mist BOX	20Kg, arm 850mm, Z stroke350mm, Oil mist spec. + mist box
30	RH-20FH10035M-*SM	CR750-20H*+mist BOX	20Kg, arm 1000mm, Z stroke350mm, Oil mist spec. + mist box
31	RH-20FH8535C-*	CR750-20H*	20Kg, arm 850mm, Z stroke450mm, Clean spec.
32	RH-20FH10035C-*	CR750-20H*	20Kg, arm 1000mm, Z stroke450mm, Clean spec.
33	RH-20FH8545-*	CR750-20H*	20Kg, arm 850mm, Z stroke450mm
34	RH-20FH10045-*	CR750-20H*	20Kg, arm 1000mm, Z stroke450mm
35	RH-20FH8545M-*	CR750-20H*	20Kg, arm 850mm, Z stroke450mm, Oil mist spec.
36	RH-20FH10045M-*	CR750-20H*	20Kg, arm 1000mm, Z stroke450mm, Oil mist spec.
37	RH-20FH8545M-*SM	CR750-20H*+mist BOX	20Kg, arm 850mm, Z stroke450mm, Oil mist spec. + mist box
38	RH-20FH10045M-*SM	CR750-20H*+mist BOX	20Kg, arm 1000mm, Z stroke450mm, Oil mist spec. + mist box
39	RH-20FH8545C-*	CR750-20H*	20Kg, arm 850mm, Z stroke450mm, Clean spec.
40	RH-20FH10045C-*	CR750-20H*	20Kg, arm 1000mm, Z stroke450mm, Clean spec.

(2) RH-3FH / 6FH series for CE were added.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RH-3FH3515-*1-S15	CR750-03H*1-1-S15	(CE) 3Kg, arm 350mm, Z stroke150mm
2	RH-3FH4515-*1-S15		(CE) 3Kg, arm 450mm, Z stroke150mm
3	RH-3FH5515-*1-S15		(CE) 3Kg, arm 550mm, Z stroke150mm m
4	RH-3FH3512C-*1-S15		(CE) 3Kg, arm 350mm, Z stroke120mm, Clean spec.
5	RH-3FH4512C-*1-S15		(CE) 3Kg, arm 450mm, Z stroke120mm, Clean spec.
6	RH-3FH5512C-*1-S15		(CE) 3Kg, arm 550mm, Z stroke120mm, Clean spec.
7	RH-6FH3520-*1-S15	CR750-06H*1-1-S15	(CE) 6Kg, arm 350mm, Z stroke200mm
8	RH-6FH4520-*1-S15		(CE) 6Kg, arm 450mm, Z stroke200mm
9	RH-6FH5520-*1-S15		(CE) 6Kg, arm 550mm, Z stroke200mm
10	RH-6FH3520M-*1-S15		(CE) 6Kg, arm 350mm, Z stroke200mm, Oil mist spec.
11	RH-6FH4520M-*1-S15		(CE) 6Kg, arm 450mm, Z stroke200mm, Oil mist spec.
12	RH-6FH5520M-*1-S15		(CE) 6Kg, arm 550mm, Z stroke200mm, Oil mist spec.
13	RH-6FH3520C-*1-S15		(CE) 6Kg, arm 350mm, Z stroke200mm, Clean spec.
14	RH-6FH4520C-*1-S15		(CE) 6Kg, arm 450mm, Z stroke200mm, Clean spec.
15	RH-6FH5520C-*1-S15		(CE) 6Kg, arm 550mm, Z stroke200mm, Clean spec.
16	RH-6FH3534-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm
17	RH-6FH4534-*1-S15		(CE) 6Kg, arm 450mm, Z stroke340mm
18	RH-6FH5534-*1-S15		(CE) 6Kg, arm 550mm, Z stroke340mm
19	RH-6FH3534M-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm, Oil Mist spec.
20	RH-6FH4534M-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm, Oil Mist spec.
21	RH-6FH5534M-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm, Oil Mist spec.
22	RH-6FH3534C-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm, Clean spec.
23	RH-6FH4534C-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm, Clean spec.
24	RH-6FH5534C-*1-S15		(CE) 6Kg, arm 350mm, Z stroke340mm, Clean spec.

- (3) Warning of external variable undefinition
- (4) Robot state variable M_LDFMax and output of special signal of each axis load factor (parameter SVDATA)
- (5) High-speed signal input (high-speed reference by location horizontal progressing)
- (6) Warning after momentary power failure
- (7) Save point return of setting of length of tool disregard (parameter ESCMODE addition)
- (8) Q type CPU single driving (parameter DRVMODE addition)
- (9) Sense of force sensor function step2 performance improvement and trouble correction
- (10) CC-Link register 32bit access variable addition
- (11) File management of user making file (RT2 Ver.2.20W and combination)
- (12) Direct execution completion return of communication protocol (communication command EXEC2 =)
- (13) Single DU is mobile again of Q type.
- (14) Automatic operation of length of tool measurement (RT2 Ver.2.20W and combination)
- (15) High-speed method when program is driven (compilation method)(parameter PRGMODE addition)

S3c

2012/03/28

1. Function addition

As for this version, the following functions are added from version S3b

(1) For special customer (Mitsubishi chemical corporation)

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RH-60L3QHBC-S01	CR8Q-791-S01	RH 60kg / Q type only
2	RH-60L3QHBC-S02	CR8Q-791-S02	

1. Function addition

As for this version, the following functions are added from version S3a

(1) RV-2F series

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RV-2F-* RV-2F-1*	(Upper) CR750-02V*n-1 (Lower) CR751-02V*n-0	
2	RV-2FB-* RV-2FB-1*	Low cost version	
3	RV-2FB-*1	CR750-02V*n-1	CE

1. Function addition

As for this version, the following functions are added from version S3.

(1) RH-3FH / 6FH series were added.

Z stroke 340mm type robot and CE/UL/KC controller have not released now.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RH-3FH3515-*	CR750-03H*-1 CR751-03H*-0	3Kg, arm 350mm, Z stroke 150mm
2	RH-3FH4515-*		3Kg, arm 450mm, Z stroke 150mm
3	RH-3FH5515-*		3Kg, arm 550mm, Z stroke 150mm
4	RH-3FH3512C-*		3Kg, arm 350mm, Z stroke 150mm, Clean spec.
5	RH-3FH4512C-*		3Kg, arm 450mm, Z stroke 150mm, Clean spec.
6	RH-3FH5512C-*		3Kg, arm 550mm, Z stroke 150mm, Clean spec.
7	RH-6FH3520-*	CR750-06H*-1 CR751-06H*-0	6Kg, arm 350mm, Z stroke 200mm
8	RH-6FH4520-*		6Kg, arm 450mm, Z stroke 200mm
9	RH-6FH5520-*		6Kg, arm 550mm, Z stroke 200mm
10	RH-6FH3520M-*		6Kg, arm 350mm, Z stroke 200mm, Oil mist spec.
11	RH-6FH4520M-*		6Kg, arm 450mm, Z stroke 200mm, Oil mist spec.
12	RH-6FH5520M-*		6Kg, arm 550mm, Z stroke 200mm, Oil mist spec.
13	RH-6FH3520C-*		6Kg, arm 350mm, Z stroke 200mm, Clean spec.
14	RH-6FH4520C-*		6Kg, arm 450mm, Z stroke 200mm, Clean spec.
15	RH-6FH5520C-*		6Kg, arm 550mm, Z stroke 200mm, Clean spec.
16	RH-6FH3534-*		6Kg, arm 350mm, Z stroke 340mm
17	RH-6FH4534-*		6Kg, arm 450mm, Z stroke 340mm
18	RH-6FH5534-*		6Kg, arm 550mm, Z stroke 340mm
19	RH-6FH3534M-*		6Kg, arm 350mm, Z stroke 340mm, Oil mist spec.
20	RH-6FH4534M-*		6Kg, arm 450mm, Z stroke 340mm, Oil mist spec.
21	RH-6FH5534M-*		6Kg, arm 550mm, Z stroke 340mm, Oil mist spec.
22	RH-6FH3534C-*		6Kg, arm 350mm, Z stroke 340mm, Clean spec.
23	RH-6FH4534C-*		6Kg, arm 450mm, Z stroke 340mm, Clean spec.
24	RH-6FH5534C-*		6Kg, arm 550mm, Z stroke 340mm, Clean spec.
25	RH-6FH3520M-*SM		6Kg, arm 350mm, Z stroke 200mm, Oil mist spec. Controller mist BOX
26	RH-6FH4520M-*SM		6Kg, arm 450mm, Z stroke 200mm, Oil mist spec. Controller mist BOX
27	RH-6FH5520M-*SM		6Kg, arm 550mm, Z stroke 200mm, Oil mist spec. Controller mist BOX
28	RH-6FH3534M-*SM		6Kg, arm 350mm, Z stroke 340mm, Oil mist spec. Controller mist BOX
29	RH-6FH4534M-*SM		6Kg, arm 450mm, Z stroke 340mm, Oil mist spec. Controller mist BOX
30	RH-6FH5534M-*SM		6Kg, arm 550mm, Z stroke 340mm, Oil mist spec. Controller mist BOX

(2) RH-3SQHR / RH-3SDHR series (Clean / Waterproof specification) were added.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RH-3S*DHR3512C	CR2*A-781	3kg, Ceiling mounted robot, Clean spec.
2	RH-3S*DHR3512W		3kg, Ceiling mounted robot, Waterproof spec

(3) For intelligent solution

* Sense of force control

* Interference evasion function (Only Q type, since F series)

* Cooperative control (Added P_UDev variable, Only Q type)

S3

2012/01/12

1. Function addition

As for this version, the following functions are added from version S2m.

- (1) Automatic driving start from T/B (R32TB/R33TB, R56TB/R57TB)
- (2) Security function (It is necessary since RT Toolbox2 Ver.2.0.)
- (3) Fram() and the Inv() function were able to be executed by the ALWAYS program.
- (4) The external positional variables were able to be backed up from RT2 once without doing power supply OFF.
- (5) Improvement of overload detection by setting of temperature in surrounding.
(For maker service, Since F series)
- (6) ABS origin point setting function at arbitrary position. (for manufacturer service)
- (7) Log function of execution step. (for maker analysis)
- (8) When the Japanese 2bytes size character (Excluding the 1byte character) is input by the "Input" command , the character is missed. (Corresponded to a Japanese character-code.)

S2m

2011/09/08

2. Function addition

As for this version, the following functions are added from version S2g.

- (1) The series of the following were added for UL specification. (SD series only)
RV-12SD*-SUL3xx series
- (2) The time setting of the filter for the double check signal system was changed.

S2g

2011/07/14

1. Function addition

As for this version, the following functions are added from version S2d.

- (1) Shared memory function of SD-GOT
- (2) Special robot (RH-20SDH8545-SNS840) for N Co.

S2d

2011/06/14

2. Function addition

Nothing

S2a

2011/05/20

1. Function addition

As for this version, the following functions are added from version S1w.

- (1) RV-2SD-SBY integrates it into Ver.S2a.
- (2) 4 models of the following were added for RV-2S* 80w motor.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RV-2S*-S80	CR1*A-771-S80	O/P exist
2	RV-2S*B-S80		
3	RV-2S*-S*81	CR1*A-772-S81	O/P not exist
4	RV-2S*B-S*81		

- (3) 2 models of the following were added for RV-18S* CR2* controller.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RV-18S*-S300	CR2*A-701	
2	RV-18S*C-S300		

- (4) 25 models of the following were added for UL specification. (SD series only)

No.	Robot type	RC	Note
1	RV-12SD-SUL3	CR2D-701	
2	RV-12SDC-SUL3		
3	RV-12SDL-SUL3		
4	RV-12SDLC-SUL3		
5	RH-6SDH3532-SUL3	CR2D-761	
6	RH-6SDH4532-SUL3		
7	RH-6SDH5532-SUL3		
8	RH-6SDH3527M-SULM6	CR3D-761M	
9	RH-6SDH4527M-SULM6		
10	RH-6SDH5527M-SULM6		
11	RH-6SDH3527M-SUL3	CR2D-761	
12	RH-6SDH4527M-SUL3		
13	RH-6SDH5527M-SUL3		
14	RH-12SDH5545-SUL	CR2D-741	
15	RH-12SDH7045-SUL		
16	RH-12SDH8545-SUL		

17	RH-12SDH5538M-SULM6	CR3D-741M	
18	RH-12SDH7038M-SULM6		
19	RH-12SDH8538M-SULM6		
20	RH-12SDH5538M-SUL	CR2D-741	
21	RH-12SDH7038M-SUL		
22	RH-12SDH8538M-SUL		
23	RH-12SDH5538C-SUL	CR2D-741	
24	RH-12SDH7038C-SUL		
25	RH-12SDH8538C-SUL		

(5) For addition axis liner servo amplifier

The liner servo AC amplifier (MR-J3-*B-RJ004) was added in the addition axis function.

Maker	Series	Type	Type name	Software version
				R2a / S2a later
Mitsubishi Electric Corporation	MELSERVO-J3 (SSCNET III)	Standard	MR-J3-□B	○
		Full closed control	MR-J3-□B-RJ006	×
		Drive-safety	MR-J3-□BS	○
		Liner servo	MR-J3-□B-RJ004	○
		Direct-drive motor	MR-J3-□B-RJ080W	○

[Usage limitation]

* Only support for absolutely positional system. (Incremental system is non-support)

* The amplifier for the drive safety supports for semi-closed control system. (A full-closed control system is non-support.)

(6) High speed DRAM executing function.

(7) Disable change O/P override.

(8) Brake lock function at servo on.

S1w

2011/02/25

1. Function addition

As for this version, the following functions are added from version S1t.

(1) RH-3S*HR3515 robot's initial value of the following parameters was changed.

COL = 1,0,1 -> COL = 1,1,1

COLLVL = 100, 100, 100, 100, 100, 100, 100, 100 → COLLVL = 110, 176, 110, 110, 100, 100, 100, 100

SPDOPT = 0 -> SPDOPT = 1

(2) Special robot (RH-3S*HR3515-SFY) for Y Co.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Arm length / Z stroke
1	RH-3S*HR3515-SFY	CR2*A-781	High speed. Arm length 175+175mm, Z stroke 150mm, With cooler fan

* ZOLL (overload detection level) value was changed.

* Fan alarm in the robot was added.

1. Function addition

As for this version, the following functions are added from version S1d.

(1) Special robot (SNS) for N Co.

11 models of specific customer (N Co.) were added. (SD series only)

No.	Robot type(*:Q/D)	RC(*:Q/D)	Arm length / Z stroke
1	RH-20SDH8535-SNS830	CR2DA-751	Arm length 850mm, Z stroke 350mm, Flange none
2	RH-20SDH8535-SNS831		Arm length 850mm, Z stroke 300mm, Flange installation, Clean bellows
3	RH-20SDH8535-SNS841		Arm length 850mm, Z stroke 400mm, Flange installation, Clean bellows
4	RH-20SDH8545-SNS842		Arm length 850mm, Z stroke 400mm, Flange(long) installation, Clean bellows
5	RH-20SDH10035-SNS130		Arm length 1000mm, Z stroke 350mm, Flange none
6	RH-20SDH10035-SNS131		Arm length 1000mm, Z stroke 300mm, Flange installation, Clean bellows
7	RH-20SDH10045-SNS140		Arm length 1000mm, Z stroke 350mm, Flange none
8	RH-20SDH10045-SNS141		Arm length 1000mm, Z stroke 400mm, Flange installation, Clean bellows
9	RH-20SDH10045-SNS142		Arm length 1000mm, Z stroke 400mm, Flange(long) installation, Clean bellows
10	RH-20SDH8535-SNS730		Arm length 700mm, Z stroke 350mm, Flange none
11	RH-20SDH8535-SNS741		Arm length 700mm, Z stroke 400mm, Flange installation, Clean bellows

(2) SFS Series models of the cheap edition were added.

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RV-3S*-SFS	CR1*A-721- SFS	RV-3SQ / RV-3SD series
2	RV-3S*C-SFS		
3	RV-3S*B-SFS		
4	RV-3S*BC-SFS		
5	RV-3S*J-SFS	CR1*A-731- SFS	
6	RV-3S*JC-SFS		
7	RV-3S*JB-SFS		
8	RV-3S*JBC-SFS		
9	RH-6S*H3520-SFS	CR1*A-761- SFS	RH-6SQH / RH-6SDH series
10	RH-6S*H4520-SFS		
11	RH-6S*H5520-SFS		
12	RH-6S*H3517C-SFS		
13	RH-6S*H4517C-SFS		
14	RH-6S*H5517C-SFS		RH-6SQH / RH-6SDH series(Z Long)
15	RH-6SDH3532-SFS		
16	RH-6SDH4532-SFS		
17	RH-6SDH5532-SFS		
18	RH-6SDH3527C-SFS		
19	RH-6SDH4527C-SFS		
20	RH-6SDH5527C-SFS		

The above-mentioned lineup is prepared in the model selection of SW.

The net multiplication parts were already existed in the SF specification.

(3) RH-3SQHR / RH-3SDHR series were added.

* The net multiplication parts were only S/W release (robot non-release).

No.	Robot type(*:Q/D)	RC(*:Q/D)	Note
1	RH-3S*HR3515N	CR1*A-781	Normal model. Arm length 175+175mm
2	RH-3S*HR3515	CR2*A-781	High-speed model. Arm length 175+175mm

3	RH-3S*HR3512M	CR2*A-781	High-speed model, Mist specification (Robot)
4	RH-3S*HR3512M-SM6	CR3*-781	High-speed model, Mist specification (Robot + RC)
5	RH-3S*HR5515N	CR1*A-781	Normal model, Arm length 275+275mm
6	RH-3S*HR5515	CR2*A-781	High-speed model, Arm length 275+275mm
7	RH-3S*HR5512M	CR2*A-781	High-speed model, Arm length 275+275mm Mist specification (Robot)
8	RH-3S*HR5512M-SM6	CR3*-781	High-speed model, Arm length 275+275mm Mist specification (Robot + RC)

(4) For addition axis drive safety amplifier

The drive-safety AC amplifier (MR-J3-*BS) was added in the addition axis function.

Maker	Series	Type	Type name	Software version
				R1t / S1t later
Mitsubishi Electric Corporation	MELSERVO-J3 (SSCNET□)	Standard	MR-J3-□B	○
		Full closed control	MR-J3-□B-RJ006	×
		Drive-safety	MR-J3-□BS	○
		Liner servo	MR-J3-□B-RJ004	×
		Direct-drive motor	MR-J3-□B-RJ080W	○

[Usage limitation]

* Only support for absolutely positional system. (Incremental system is non-support)

* The amplifier for the drive safety supports for semi-closed control system. (A full-closed control system is non-support.)

(5) RTToolBox2 (Ver.1.7) for error summary function

(6) For base board of controller TZ352B

S1d

2010/08/30

1. Function addition

As for this version, the following functions are added from version S1c.

- (1) Safety for UL
- (2) Temperature signal output in controller board
- (3) Trigger parameter initial value change in servo log function

S1c

2010/07/28

1. Function addition

As for this version, the following functions are added from version S1.

(1) RH-6S*H / RH-12S*H Z-axis long model addition.

No.	Model name(*:Q/D)	Controller(*:Q/D)	Arm length / Z-axis stroke
1	RH-6S*H3532	CR1*-761	Arm length 350mm, Z stroke 320mm
2	RH-6S*H4532		Arm length 450mm, Z stroke 320mm
3	RH-6S*H5532		Arm length 550mm, Z stroke 320mm
4	RH-6S*H3527M		Arm length 350mm, Z stroke 270mm, oil mist

5	RH-6S*H4527M		Arm length 450mm, Z stroke 270mm, oil mist
6	RH-6S*H5527M		Arm length 550mm, Z stroke 270mm, oil mist
7	RH-6S*H3527C		Arm length 350mm, Z stroke 270mm, clean
8	RH-6S*H4527C		Arm length 450mm, Z stroke 270mm, clean
9	RH-6S*H5527C		Arm length 550mm, Z stroke 270mm, clean
10	RH-12S*H5545	CR2*-741	Arm length 550mm, Z stroke 450mm
11	RH-12S*H7045		Arm length 700mm, Z stroke 450mm
12	RH-12S*H8545		Arm length 850mm, Z stroke 450mm
13	RH-12S*H5538M		Arm length 550mm, Z stroke 380mm, oil mist
14	RH-12S*H7038M		Arm length 700mm, Z stroke 380mm, oil mist
15	RH-12S*H8538M		Arm length 850mm, Z stroke 380mm, oil mist
16	RH-12S*H5538C		Arm length 550mm, Z stroke 380mm, clean
17	RH-12S*H7038C		Arm length 700mm, Z stroke 380mm, clean
18	RH-12S*H8538C		Arm length 850mm, Z stroke 380mm, clean

(2) RH-20SxH85xx model addition.

No.	Model name(*:Q/D)	Controller(*:Q/D)	Arm length / Z-axis stroke
1	RH-20S*H8535	CR2*-751	Arm length850mm, Z stroke 350mm
2	RH-20S*H8530M		Arm length850mm, Z stroke 300mm, mist
3	RH-20S*H8530C		Arm length850mm, Z stroke 300mm, clean
4	RH-20S*H8545		Arm length850mm, Z stroke 450mm
5	RH-20S*H8538M		Arm length850mm, Z stroke 380mm, mist
6	RH-20S*H8538C		Arm length850mm, Z stroke 380mm, clean
7	RH-20S*H8530M-SM6xx	CR3*-751	Arm length850mm, Z stroke 300mm, mist
8	RH-20S*H8538M-SM6xx		Arm length850mm, Z stroke 380mm, mist

Notice) UL model, SF model and Z-axis 600mm model are non-correspondence.

CR3 * controller connection model was added as No.7 and 8. The controller becomes a mist environmental specification. However, the display model name and the model selection on S/W become the same as the mist specification of No.2 and 5.

(3) RH18kg/RH20kg Model mode switch function

When the customer who uses RH-18S*H85xx uses RH-20S*H85xx as the alternative machine by 18kg or less in the load mass, tact time might be different from RH-18S*H. In this case, function to change RH-20S*H85xx to the maximum payload 18kg setting by switching to RH18S*H85xx setting according to parameter LOADMODE, and to make it operate by tact time almost similar to RH-18S*H85xx.

(4) RV-12Sx –S3xx model addition.

RV-12S* series robot works on CR2*A controller.

No.	Model name(*:Q/D)	Controller(*:Q/D)	Remarks
1	RV-12S*-S300	CR2*A-701	Standard model
2	RV-12S*C-S300		
3	RV-12S*L-S300		
4	RV-12S*LC-S300		
5	RV-12S*-SE300		SE model
6	RV-12S*C-SE300		
7	RV-12S*L-SE300		
8	RV-12S*LC-SE300		
9	RV-12S*-SF300 *1	CR2*A-701-SFxx	SF model
10	RV-12S*L-SF300 *1		

Notice) UL is non-correspondence.

*1) SQ series (RV-12SQ-SF300 and RV-12SQL-SF300....) has not existed yet

1. Function addition

As for this version, the following functions are added from version P8f.

- (1) Multi base (Work coordinate system) function
- (2) Data reading command EBRead for In-Sight EZ series addition. (Data can be input by specifying tag)
- (3) Direct drive motor (MR-J3-*B-RJ080W) is added to the motor for the addition axis.
- (4) For parameter "SYNCIO" of command M_DOut for CC-Link. (The CC-Link register can be high speed output)

1. Function addition

Nothing.

* A special N7b version for CE Marking of the SQ series was integrated into standard N8f version.

1. Function addition

As for this version, the following functions are added from version P8a.

- (1) RV-2SD model addition.

1. Function addition

As for this version, the following functions are added from version P7a.

- (1) Work coordinate system work JOG function
- (2) GOT backup/ restore
- (3) High trust protocol function
- (4) The mechanism number of the PTOJ/JTOP function is made unnecessary.
- (5) Review of maintenance forecast grease initial time
- (6) While the error is occurring, restoring is made possible.
- (7) Change the model name and character string in SD series
- (8) Improvement servo S/W function (For type communication of two encoder lines, For instruction value abnormality detection 18bit encoder, Anomaly detection of main circuit charge operation, Current sensor clock abnormality detection)

2. Bug correction

As for this version, the following bugs are corrected from version P7a.

- (1) Error CC-Link7700 mis-occures.(by CC-Link timeout when the servo amplifier break)
- (2) It occurs communication error because of outside program positional variable reading(MvTune)

P7a

2009/07/24

1. Function addition

As for this version, the following functions are added from version P7.

- (1) Function enhancing of user definition area
- (2) For device net interface
- (3) Servo version check function

2. Bug correction

As for this version, the following bugs are corrected from version P7

- (1) The robot program name is changed to the English small letter.
- (2) Error H130 mis-occurs. (also SD-SF)
- (3) The robot doesn't work smoothly by the real-time outside control function.
- (4) The point string data of CAD link function is not preserved in the addition memory cassette

P7

2009/07/06

1. Function addition

As for this version, the following functions are added from version P6k.

- (1) Vibration control function (MvTune 4)
- (2) For PIO interface (source) TZ378 (done on P6d)
- (3) For PROFIBUS (done on P6k)
- (4) Addition of CC-Link update cycle interchangeable parameter

2. Bug correction

As for this version, the following bugs are corrected from version P6k.

- (1) The update cycle of CC-Link is 100ms.
- (2) Initial value change in CC-Link parameter "CCFIL"
- (3) The execution line changes because of the step sending return.
- (4) The execution line changes because of the interruption restart of the step sending.
- (5) The CNT value is returned to an initial value by the END instruction
- (6) improvement of real-time control
- (7) Calculation trouble at addition axis addition subtraction velocity time

(8) It is generated the access exception if RELM is done and TRK OFF.

P6k

2009/03/25

1. Function addition

As for this version, the following functions are added from version P6d.

(1) For PROFIBUS card TZ577 (only SD series)

2. Bug correction

Nothing

P6d

2008/11/06

1. Function addition

As for this version, the following functions are added from version P6b.

(1) For PIO interface (source) TZ378 (done on P6d)

2. Bug correction

As for this version, the following bugs are corrected from version P6b.

(1) Neither servo ON, error reset nor the operation of the jog can be done with R56TB afterwards when the instruction that exceeds 55 characters with R56TB is executed directly.

P6b

2008/10/27

1. Function addition

Nothing.

2. Bug correction

As for this version, the following bugs are corrected from version P6a.

(1) If the communication that uses USB is done, L4150 (The content of the file is abnormal) and L4220 (The mistake is found in the syntax) are generated. (Only the SD series)

P6a

2008/09/16

1. Function addition

Nothing.

2. Bug correction

As for this version, the following bugs are corrected from version P6.

- (1) H130 error might be mis-detected at power supply ON. (Only the SD-SF series)

P6

2008/08/20

1. Function addition

As for this version, the following functions are added from version P2.

- (1) For SD-SF series.

Vertical 6-axis type robots		Horizontal 4-axis type robots	
RV-12SD-SF	RV-12SDL-SF	RH-6SDH3520-SF	RH-6SDH3532-SF
RV-6SD-SF	RV-6SDL-SF	RH-6SDH4520-SF	RH-6SDH4532-SF
RV-3SD-SF	RV-3SDJ-SF	RH-6SDH5520-SF	RH-6SDH5532-SF
		RH-12SDH5535-SF	RH-12SDH7035-SF
		RH-12SDH8535-SF	RH-18SDH8535-SF

- (2) For SD-SZ series

Vertical 6-axis type robots	
RV-12SD-SZ	RV-12SDL-SZ
RV-12SDC-SZ	RV-12SDLC-SZ
RV-6SD-SZ	RV-6SDL-SZ
RV-6SDC-SZ	RV-6SDLC-SZ

- (3) Double system check processing addition of O/P mode key.
- (4) Filter processing addition of battery error detection processing

2. Bug correction

As for this version, the following bugs are corrected from version P2.

- (1) The controller freezes it by the reading demand of the variable name 32 characters or more.
- (2) An exaggerated speed is generated by the joint interpolation with tight addition and subtraction velocity.
- (3) An exaggerated speed is generated by the joint interpolation after the significant point street is interpolated.
- (4) Flicker cancellation of O/P dot matrix LED display.
- (5) The first machine PLC becomes MULTI CPU DOWN by CRnQ. (Only the SQ series)
- (6) If CMP OFF is executed after operation with a lot of movements of the angle of the joint, H115x is generated.

P2

2008/05/23

1. Function addition

As for this version, the following functions are added from version P1b.

- (1) For CR1D controller. (The resurrection control / Automatic change of fan warning etc)
- (2) Safety unit fuse error H0140 is unified to the emergency stop (H0050 etc.).
- (3) The operation enable is set to the override change from T/B.
- (4) Collection data of servo data log function and addition of trigger.

2. Bug correction

As for this version, the following bugs are corrected from version P1b.

- (1) Speed FB and speed FF of the servo data log have reversed.
- (2) When two robots are connected with one encoder, the encoder value might be not corresponding. (Only the SD series)
- (3) The L3130 error occurs if the Open instruction is executed twice on the client side of the Ethernet data link.
- (4) The Trk Off command when the interruption is generated might not be completed. (Only the SD series)
- (5) L8621, L8622, L8630, and the L8631 error occur while communicating with the network vision sensor.
- (6) L2165, L2106, and the H0963 error occur if the tracking is done by 5-axis robots. (Only the SD series)

P1b

2008/03/05

1. Function addition

As for this version, the following functions are added from version P1a.

- (1) Addition of the motion control cycle to log file of servo data log function.
- (2) The fuse number of the error of blowing the fuse in PIO interface (TZ368) is changed. (Only the SD series)
- (3) Change of error message of H0087.
- (4) Vibration control function 1 is added.

2. Bug correction

As for this version, the following bugs are corrected from version P1a.

- (1) The excessive error might occur while JOG is operating.
- (2) Even if the FWD key to R56TB is separated, the robot might not stop.
- (3) The servo download that uses the ROMCOPY command might fail.

P1a

2008/01/17

1. Function addition

Nothing.

2. Bug correction

As for this version, the following bugs are corrected from version P1.

(1) When R56TB is pulled out after R56TB is connected (LAN connection establishment), the controller cannot operate it.

1. Function addition

First edition release