

Функция настройки и диагностики Серво

GOT Drive

GOT Drive



MITSUBISHI GRAPHIC OPERATION TERMINAL

GOT2000 x MELSERVO-J4

MITSUBISHI SERVO AMPLIFIERS & MOTORS

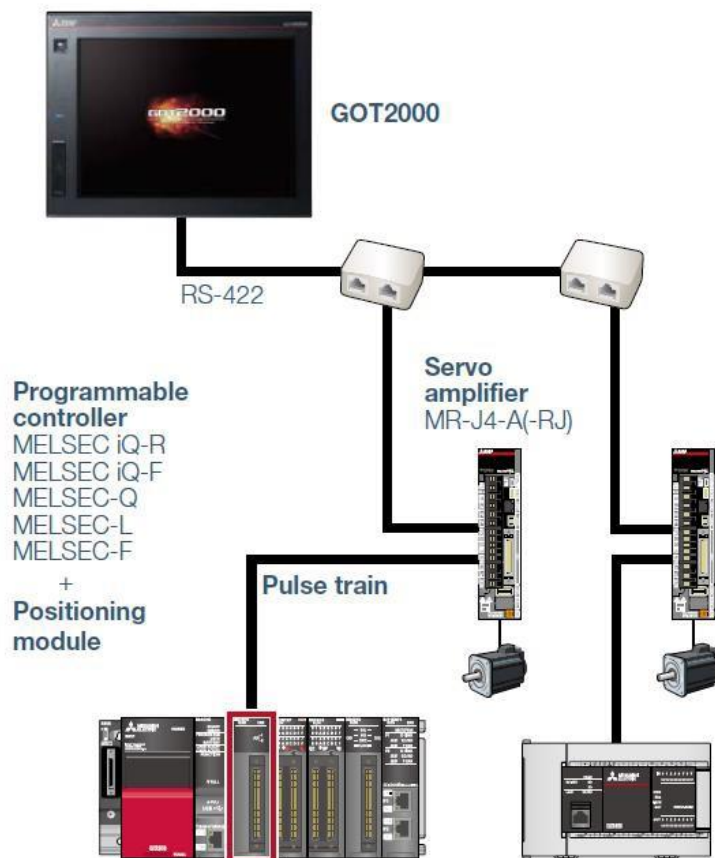
Варианты подключения Серво

GOT Drive

System configuration

CASE 1

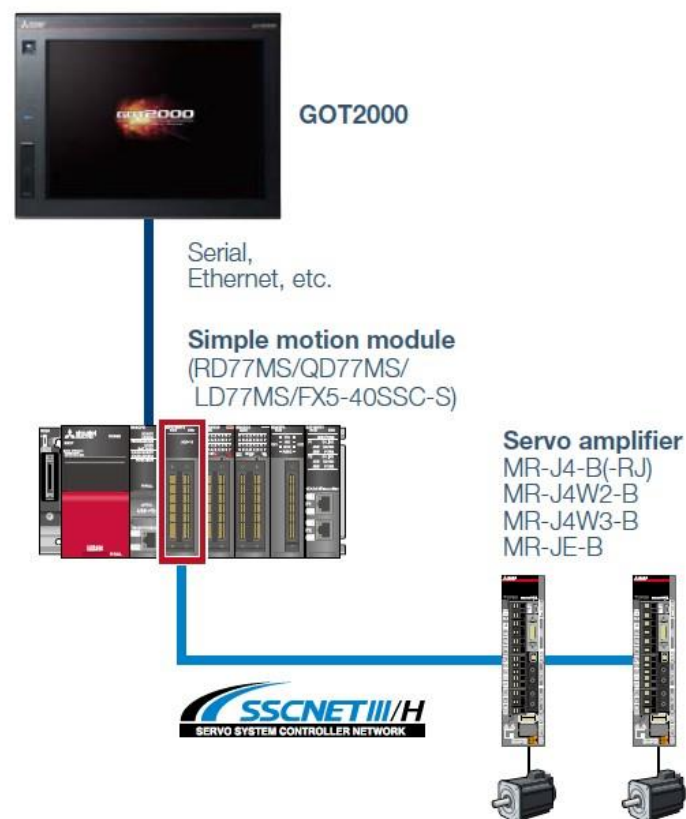
Supported



System configuration

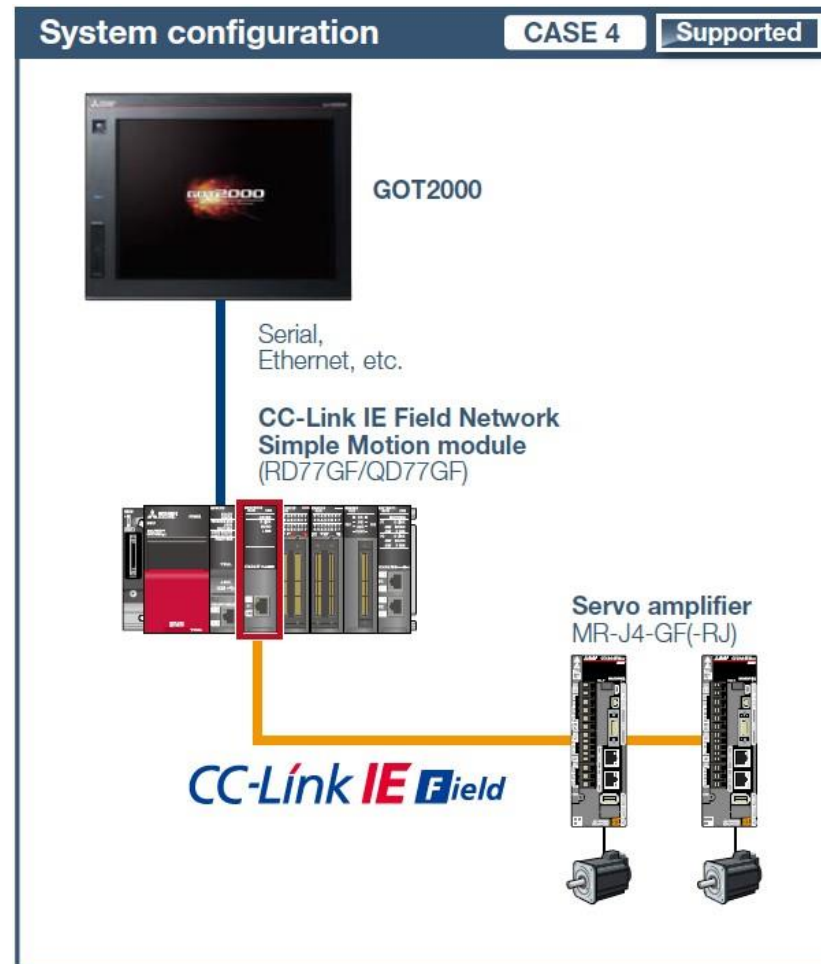
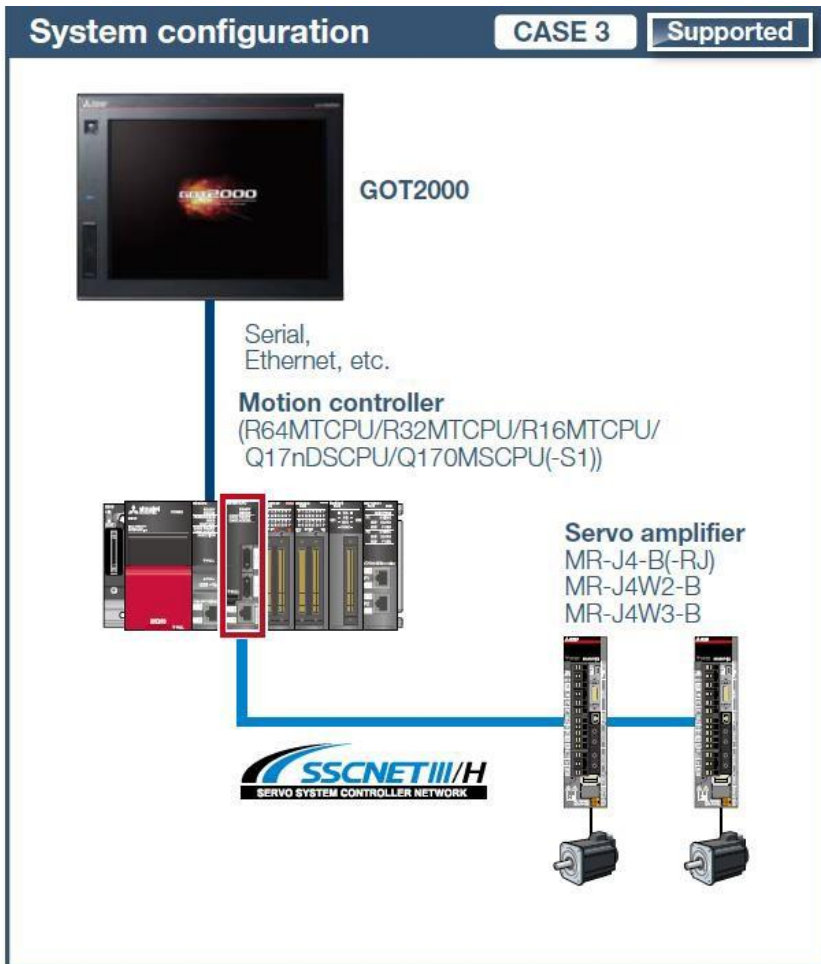
CASE 2

Supported



Варианты подключения Серво

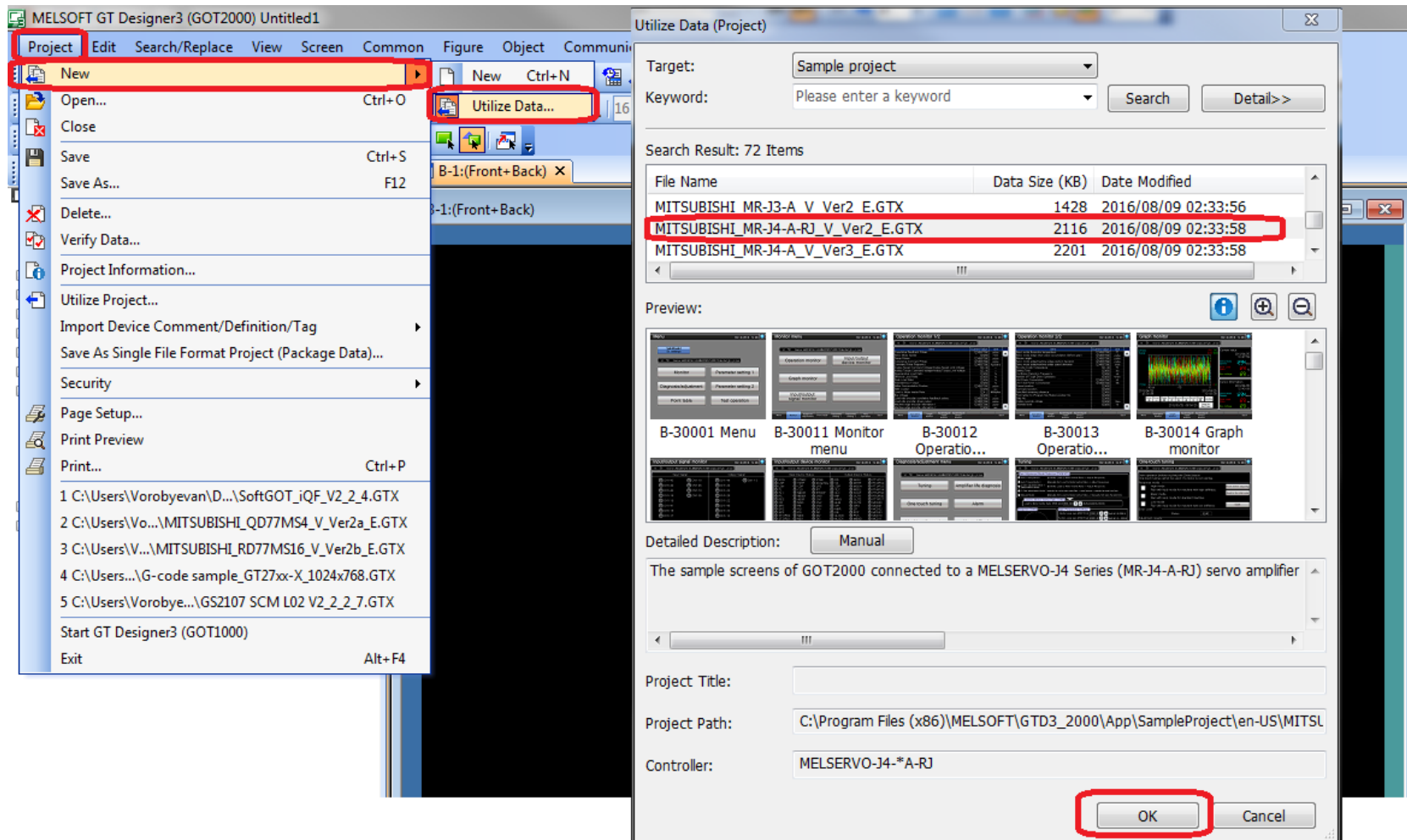
GOT Drive



Проект для панелей GOT



По умолчанию присутствует в GT-Works3



MELSOFT GT Designer3 (GOT2000) Untitled1

Project Edit Search/Replace View Screen Common Figure Object Communi

New Ctrl+N

Utilize Data...

Target: Sample project

Keyword: Please enter a keyword Search Detail>>

Search Result: 72 Items

File Name	Data Size (KB)	Date Modified
MITSUBISHI_MR-J3-A_V_Ver2_E.GTX	1428	2016/08/09 02:33:56
MITSUBISHI_MR-J4-A-RJ_V_Ver2_E.GTX	2116	2016/08/09 02:33:58
MITSUBISHI_MR-J4-A_V_Ver3_E.GTX	2201	2016/08/09 02:33:58

Preview:

B-30001 Menu B-30011 Monitor menu B-30012 Operatio... B-30013 Operatio... B-30014 Graph monitor

Detailed Description: Manual

The sample screens of GOT2000 connected to a MELSERVO-J4 Series (MR-J4-A-RJ) servo amplifier

Project Title:

Project Path: C:\Program Files (x86)\MELSOFT\GTD3_2000\App\SampleProject\en-US\MITSL

Controller: MELSERVO-J4-*A-RJ

OK Cancel

Редактирование параметров Серво (аналог MR-Configurator 2)



Basic Setting (ROM) 1/2

0 / 15/20 18 17:25

St. :56 Name:ABCDEFGHIJKLMN O PQRSTUVWXYZabcdefghijklmnopghijklmn

No.	Symbol	Name	Set Value	Unit
PA01	*STY	Operation Mode	00001234h	
PA02	*REG	Regenerative Option	00001234h	
PA03	*ABS	Absolute Position Detection System	00001234h	
PA04	*AOP1	Function Selection A-1	00001234h	
PA05	*FBP	Number of Command Input Pulses per Revolution	12345678	
PA06	CMX	Electronic Gear Numerator / Number of Gear Teeth on Machine Side	12345678	
PA07	CDV	Electronic Gear Denominator / Number of Gear Teeth on Servo Motor Side	12345678	
PA08	ATU	Auto Tuning Mode	00001234h	
PA09	RSP	Auto Tuning Response	12345678	
PA10	INP	In-position Range	12345678	
PA11	TLP	Forward Rotation Torque Limit / Positive Direction Thrust Limit	123456.0	%
PA12	TLN	Reverse Rotation Torque Limit / Negative Direction Thrust Limit	123456.0	%
PA13	*PLSS	Command Pulse Input Form	00001234h	
PA14	*POL	Rotation Direction Selection / Travel Direction Selection	12345678	
PA15	*ENR	Encoder Output Pulses	12345678	pulse/rev
PA16	*ENR2	Encoder Output Pulses 2	12345678	
PA17	*MSR	Servo Motor Series Setting	00001234h	

*: Once data is written, the data becomes valid after turning on the amplifier power again.

Menu

Parameter Setting 2

Basic Setting

Gain/Filter

Extension Setting 1

I/O Setting

Extension Setting 2

Back

Журнал аварий/ Просмотр документации (аналог MR-Configurator 2)



Alarm display

Alarm 08/31/2015 10:00

Current Alarm				
Alarm No.	Alarm Contents		Detail information (h)	
AL 10	Undervoltage		1	

Alarm History				
History No.	Alarm No.	Alarm Contents	Occurrence Time(HR)	Detail information (h)
latest	AL 20	Undervoltage	177	1
1	AL 20	Encoder Initial Com. Error 1	177	1
2	AL 10	Undervoltage	177	1
3	AL FF	No Alarms	0	0
4	AL FF	No Alarms	0	0
5	AL FF	No Alarms	0	0
6	AL FF	No Alarms	0	0
7	AL FF	No Alarms	0	0
8	AL FF	No Alarms	0	0

Status Display at Alarm Occurrence Current Alarm Reset Alarm History Clear *Reset/Clear can be performed with a 3-second long press.

Menu Tuning One touch tuning Machine diagnosis Amplifier life diagnosis Alarm **Manual Display** Back

Нажмите для просмотра документации

Document display * Not supported by GT23, GT21.

Manual Display 08/31/2015 10:00

8. TROUBLESHOOTING

8.2 Alarm list

No.	Name	Detail No.	Detail name	Stop method	Alarm reset	Alarm association	Alarm code
10	Undervoltage	10.1	Undervoltage error in the control circuit power	000	0	0	0
		10.2	Undervoltage error in the logic circuit power	000	0	0	0
		10.3	Motor error 1	000	0	0	0
		10.4	Motor error 2	000	0	0	0
12	Memory error 1 (RAM)	12.1	RAM error 1	000	0	0	0
		12.2	RAM error 2	000	0	0	0
		12.3	RAM error 3	000	0	0	0
		12.4	RAM error 4	000	0	0	0
14	Clock error	14.1	Clock error 1	000	0	0	0
		14.2	Clock error 2	000	0	0	0
		14.3	Clock error 3	000	0	0	0
		14.4	Clock error 4	000	0	0	0
		14.5	Clock error 5	000	0	0	0
		14.6	Clock error 6	000	0	0	0
		14.7	Clock error 7	000	0	0	0
		14.8	Clock error 8	000	0	0	0
		14.9	Clock error 9	000	0	0	0
		14.10	Clock error 10	000	0	0	0
		14.11	Clock error 11	000	0	0	0
		14.12	Clock error 12	000	0	0	0
		14.13	Clock error 13	000	0	0	0
		14.14	Clock error 14	000	0	0	0
		14.15	Clock error 15	000	0	0	0
		14.16	Clock error 16	000	0	0	0
		14.17	Clock error 17	000	0	0	0
		14.18	Clock error 18	000	0	0	0
		14.19	Clock error 19	000	0	0	0
		14.20	Clock error 20	000	0	0	0
		14.21	Clock error 21	000	0	0	0
		14.22	Clock error 22	000	0	0	0
		14.23	Clock error 23	000	0	0	0
		14.24	Clock error 24	000	0	0	0
		14.25	Clock error 25	000	0	0	0
		14.26	Clock error 26	000	0	0	0
		14.27	Clock error 27	000	0	0	0
		14.28	Clock error 28	000	0	0	0
		14.29	Clock error 29	000	0	0	0
		14.30	Clock error 30	000	0	0	0
		14.31	Clock error 31	000	0	0	0
		14.32	Clock error 32	000	0	0	0
		14.33	Clock error 33	000	0	0	0
		14.34	Clock error 34	000	0	0	0
		14.35	Clock error 35	000	0	0	0
		14.36	Clock error 36	000	0	0	0
		14.37	Clock error 37	000	0	0	0
		14.38	Clock error 38	000	0	0	0
		14.39	Clock error 39	000	0	0	0
		14.40	Clock error 40	000	0	0	0
		14.41	Clock error 41	000	0	0	0
		14.42	Clock error 42	000	0	0	0
		14.43	Clock error 43	000	0	0	0
		14.44	Clock error 44	000	0	0	0
		14.45	Clock error 45	000	0	0	0
		14.46	Clock error 46	000	0	0	0
		14.47	Clock error 47	000	0	0	0
		14.48	Clock error 48	000	0	0	0
		14.49	Clock error 49	000	0	0	0
		14.50	Clock error 50	000	0	0	0
		14.51	Clock error 51	000	0	0	0
		14.52	Clock error 52	000	0	0	0
		14.53	Clock error 53	000	0	0	0
		14.54	Clock error 54	000	0	0	0
		14.55	Clock error 55	000	0	0	0
		14.56	Clock error 56	000	0	0	0
		14.57	Clock error 57	000	0	0	0
		14.58	Clock error 58	000	0	0	0
		14.59	Clock error 59	000	0	0	0
		14.60	Clock error 60	000	0	0	0
		14.61	Clock error 61	000	0	0	0
		14.62	Clock error 62	000	0	0	0
		14.63	Clock error 63	000	0	0	0
		14.64	Clock error 64	000	0	0	0
		14.65	Clock error 65	000	0	0	0
		14.66	Clock error 66	000	0	0	0
		14.67	Clock error 67	000	0	0	0
		14.68	Clock error 68	000	0	0	0
		14.69	Clock error 69	000	0	0	0
		14.70	Clock error 70	000	0	0	0
		14.71	Clock error 71	000	0	0	0
		14.72	Clock error 72	000	0	0	0
		14.73	Clock error 73	000	0	0	0
		14.74	Clock error 74	000	0	0	0
		14.75	Clock error 75	000	0	0	0
		14.76	Clock error 76	000	0	0	0
		14.77	Clock error 77	000	0	0	0
		14.78	Clock error 78	000	0	0	0
		14.79	Clock error 79	000	0	0	0
		14.80	Clock error 80	000	0	0	0
		14.81	Clock error 81	000	0	0	0
		14.82	Clock error 82	000	0	0	0
		14.83	Clock error 83	000	0	0	0
		14.84	Clock error 84	000	0	0	0
		14.85	Clock error 85	000	0	0	0
		14.86	Clock error 86	000	0	0	0
		14.87	Clock error 87	000	0	0	0
		14.88	Clock error 88	000	0	0	0
		14.89	Clock error 89	000	0	0	0
		14.90	Clock error 90	000	0	0	0
		14.91	Clock error 91	000	0	0	0
		14.92	Clock error 92	000	0	0	0
		14.93	Clock error 93	000	0	0	0
		14.94	Clock error 94	000	0	0	0
		14.95	Clock error 95	000	0	0	0
		14.96	Clock error 96	000	0	0	0
		14.97	Clock error 97	000	0	0	0
		14.98	Clock error 98	000	0	0	0
		14.99	Clock error 99	000	0	0	0
		15.00	Clock error 100	000	0	0	0

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Проверьте информацию в документации *.pdf

Функция осциллографа (аналог MR-Configurator 2)

GOT Drive



Запуск Серво в режиме JOG (аналог MR-Configurator 2)



JOG Operation

01/15/2018 17:26

St. :56 Name:ABCDEFGHIJKLMN O PQRSTU VWXYZabcdefghijklmnopghijklmn

Item	Current Value	Unit	
Cumulative Feedback Pulses	1234567890	pulse	▲
Servo Motor Speed	123456	r/min	
Droop Pulses	1234567890	pulse	
Cumulative Command Pulses	1234567890	pulse	
Command Pulse Frequency	1234567890	kpulse/s	
Analog Speed Command Voltage/Analog Speed Limit Voltage	123.00	v	
Analog Torque Command Voltage/Analog Torque Limit Voltage	123.00	v	
Regenerative Load Ratio	123456	%	
Effective Load Ratio	123456	%	
Peak Load Ratio	123456	%	
Instantaneous Torque	123456	%	
Within One-revolution Position	1234567890	pulse	▼
ABS Counter	123456	rev	

Start JOG operation

Motor Speed	123456	Fwd. Rot.	Rev. Rot.
Accel./Decel. Time Constant	123456		

Menu

JOG Operation

Positioning Operation

Output Signal Forced Output

Single-step feed

Back

Индикация состояния дискр. вх./выходов (аналог MR-Configurator 2)



Input/output device monitor

01/15/2018 17:24

St. :56

Name:ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyzjklmn

Input Device Status			Output Device Status		
☐ SON	☐ STAB2	☐ STAB	☐ RD	☐ ABSV	☐ PT1/PS1
☐ LSP	☐ TSTP	☐ DOG/SIG	☐ SA	☐ MTTR	☐ PT2/PS2
☐ LSN	☐ CDP	☐ LPS	☐ ZSP	☐ MSDH	☐ PT3/PS3
☐ TL	☐ CLD	☐ RT	☐ TLC	☐ MSDL	☐ PT4/PS4
☐ TL1	☐ MECR	☐ RTCDP	☐ VLC	☐ SOUT	☐ PT5/PS5
☐ PC	☐ AB SM	☐ OV0	☐ INP	☐ OUT1	☐ PT6/PS6
☐ RES	☐ ABSR	☐ OV1	☐ WNG	☐ OUT2	☐ PT7/PS7
☐ CR	☐ MSD	☐ OV2	☐ ALM	☐ OUT3	☐ MCD00
☐ SP1	☐ PI1	☐ OV3	☐ OP	☐ CPO	☐ MCD01
☐ SP2	☐ PI2	☐ DI0	☐ MBR	☐ ZP	☐ MCD02
☐ SP3	☐ PI3	☐ DI1	☐ DB	☐ POT	☐ MCD03
☐ ST1/RS2	☐ MD0	☐ DI2	☐ ALCD0	☐ PUS	☐ MCD10
☐ ST2/RS1	☐ MD1	☐ DI3	☐ ALCD1	☐ MEND	☐ MCD11
☐ CMX1	☐ TCH	☐ DI4	☐ ALCD2	☐ PED	☐ MCD12
☐ CMX2	☐ TP0	☐ DI5	☐ BWNG	☐ ALMWNG	☐ MCD13
☐ LOP	☐ TP1	☐ DI6	☐ CDPS	☐ BW9F	
☐ EM2/EM1	☐ OVR	☐ DI7	☐ CLDS	☐ PT0/PS0	

Menu

Operation monitor

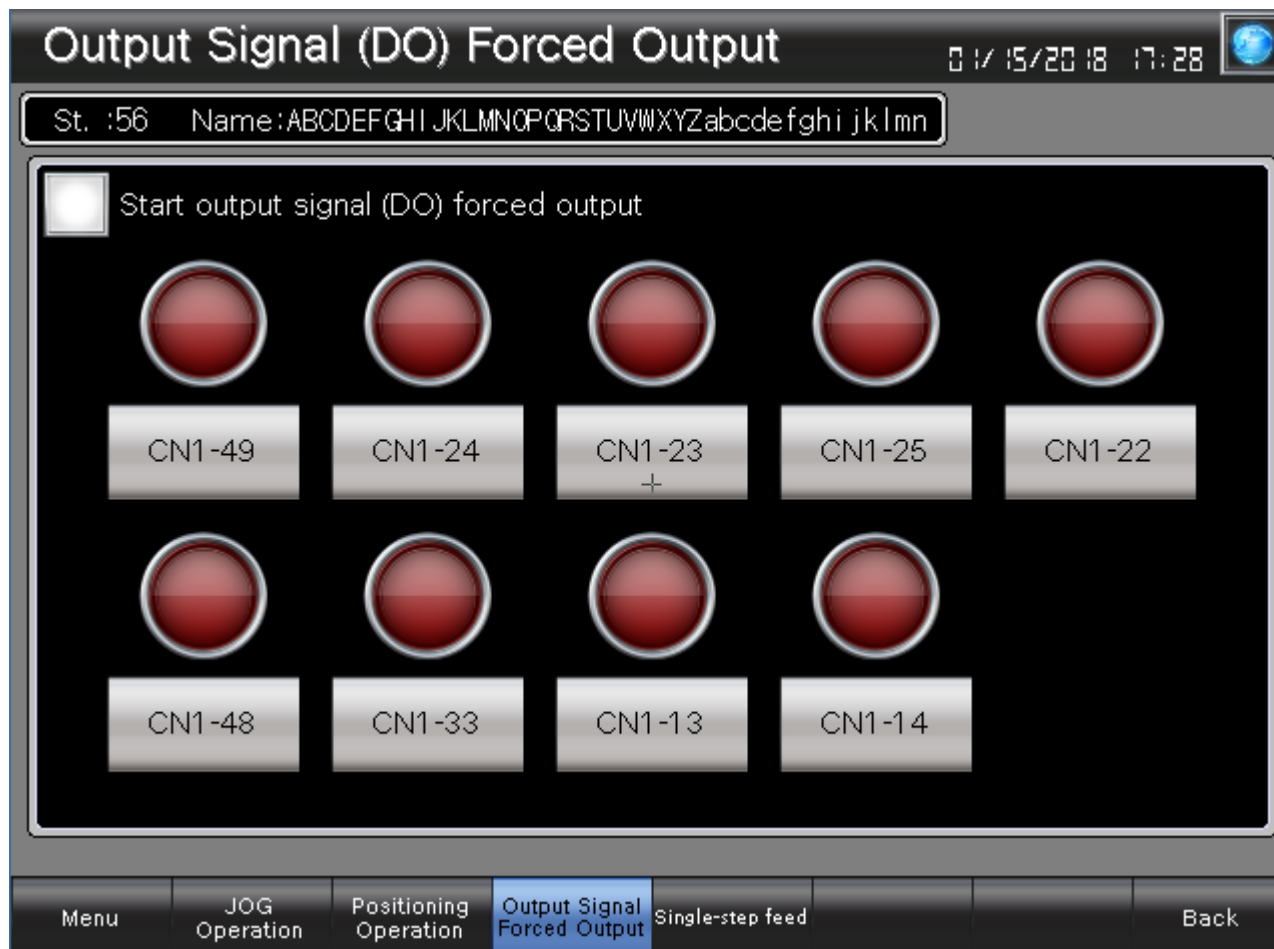
Graph monitor

Input/output signal monitor

Input/output device monitor

Back

Проверка дискр. выходов (аналог MR-Configurator 2)



Настройка серво (аналог MR-Configurator 2)



Tuning

01/15/2018 17:21

St.:56 Name:ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmn

Gain Adjustment Mode Selection (PA08 ATU)

Auto Tuning Mode 1 (Estimate Load to Motor Inertia Ratio -> Adjust Response)

Auto Tuning Mode 2 (Manually Set Load to Motor Inertia Ratio -> Adjust Response)

2 Gain adjustment Mode 1 (Interpolation Mode) (Estimate Load to Motor Inertia Ratio -> Adjust Response)

2 Gain adjustment Mode 2 (Manually Set Load to Motor Inertia Ratio -> Adjust Response -> Manually Set Model Loop Gain)

Manual Mode (Manually Set Load to Motor Inertia Ratio -> Manually Set Gain Parameters)

Load to Motor Inertia Ratio Setting

Load to Motor Inertia Ratio (PB06 GD2)

300.00

▼ ▲

[Multiplier](0.00-300.00)

Response Setting

Auto Tuning Response (PA09 RSP)

40

(1-40)

Gain Parameter Setting

Model Loop Gain (PB07 PG1)

2000.0

▼ ▲

[rad/s](1.0-2000.0)

Position Loop Gain (PB08 PG2)

2000.0

▼ ▲

[rad/s](1.0~ 2000.0)

Speed Loop Gain (PB09 VG2)

65535

▼ ▲

[rad/s](20~ 65535)

Speed Integral Compensation (PB10 VIC)

1000.0

▼ ▲

[ms](0.1 ~ 1000.0)

Menu

Tuning

One-touch tuning

Machine diagnosis

Amplifier life diagnosis

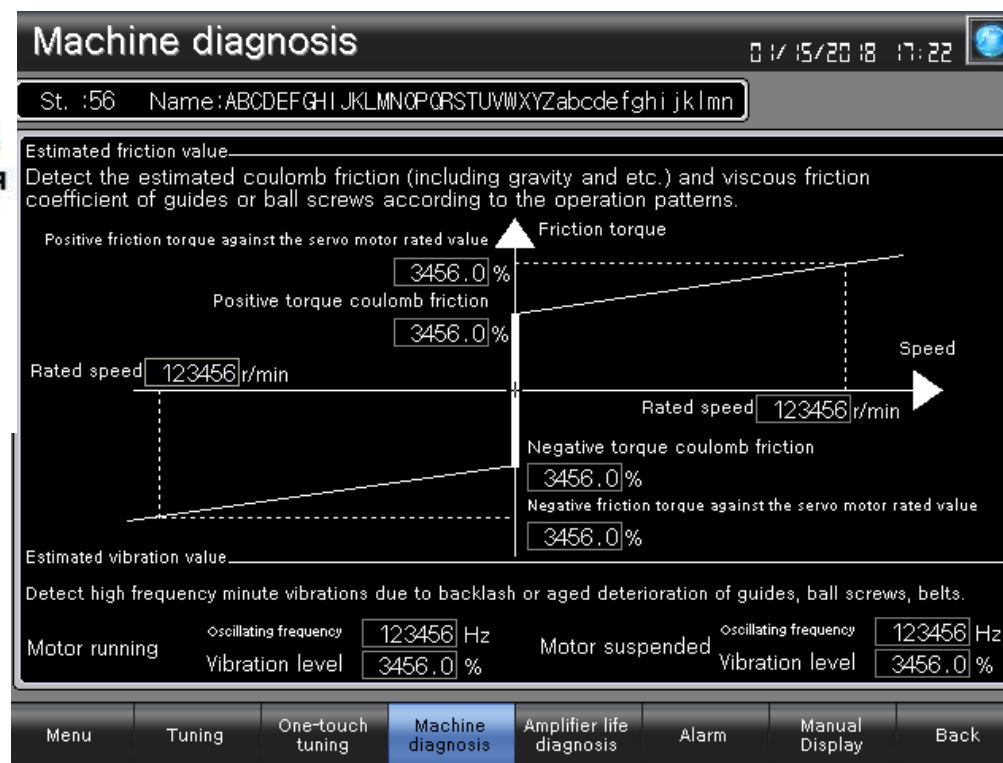
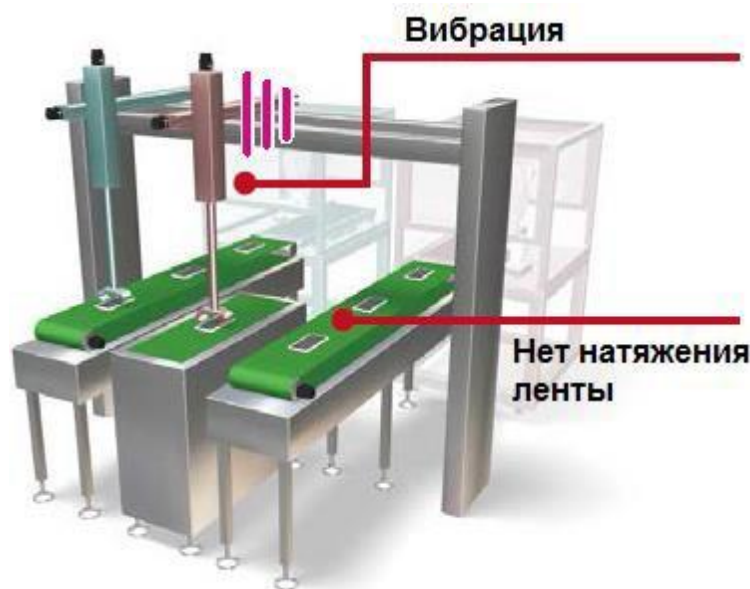
Alarm

Manual Display

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Анализ механической части машины (аналог MR-Configurator 2)

GOT Drive



Фильтры подавления резонансных частот

(аналог MR-Configurator 2)

Filter Setting 1/2

01/15/2018 17:45

Tuning

Filter Setting

Vib. Supp. Ctrl

Machine resonance suppression filter

Filter 1 (Adaptive tuning) (PB01 FILT)

No Setting

Tuning

Manual Setting

Notch frequency (PB13 NH1)

3456 Hz (10-4500)

Notch width (PB14 NHQ1)

Standard (a=2)

Notch depth (PB14 NHQ1)

Deep (-40dB)

Frequency

Filter 2 (PB16 NHQ2)

Disabled

Notch frequency (PB15 NH2)

123456 Hz (10-4500)

Notch width (PB16 NHQ2)

Standard (a=2)

Notch depth (PB16 NHQ2)

Deep (-40dB)

Filter 3 (PB47 NHQ3)

Disabled

Notch frequency (PB46 NH3)

123456 Hz (10-4500)

Notch width (PB47 NHQ3)

Standard (a=2)

Notch depth (PB47 NHQ3)

Deep (-40dB)

Filter 4 (PB49 NHQ4)

Disabled

Notch frequency (PB48 NH4)

123456 Hz (10-4500)

Notch width (PB49 NHQ4)

Standard (a=2)

Notch depth (PB49 NHQ4)

Deep (-40dB)

Filter 5 (PB51 NHQ5)

Disabled

Notch frequency (PB50 NH5)

123456 Hz (10-4500)

Notch width (PB51 NHQ5)

Standard (a=2)

Notch depth (PB51 NHQ5)

Deep (-40dB)

Other filter

Menu

Tuning

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Фильтры подавления вибрации (аналог MR-Configurator 2)



Vibration Suppression Control Setting

01/15/2018 17:46 

Tuning
Filter Setting
Vib. Supp. Ctrl

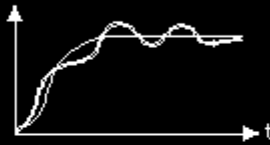
Advanced vibration suppression control

Vibration suppression control mode selection (PA24 AOP4) Standard mode 3 inertia mode Low response mode

Vibration suppression control 1

Control setting 1 (PB02 VRFT)		Tuning		Manual Setting	
Vibration frequency	(PB19 VRF11)	2345.6	▼ ▲	[Hz] (0.1-300.0)	
Resonance frequency	(PB20 VRF12)	2345.6	▼ ▲	[Hz] (0.1-300.0)	
Vib. freq. damping setting	(PB21 VRF13)	123.45	▼ ▲	(0.00-0.30)	
Res. freq. damping setting	(PB22 VRF14)	123.45	▼ ▲	(0.00-0.30)	

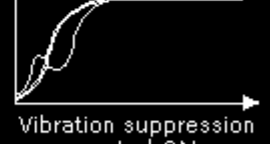
Position



Vibration suppression control OFF
(Normal control)

Vibration suppression control 2

Control setting 2 (PB02 VRFT)		Tuning		Manual Setting	
Vibration frequency	(PB52 VRF21)	2345.6	▼ ▲	[Hz] (0.1-300.0)	
Resonance frequency	(PB53 VRF22)	2345.6	▼ ▲	[Hz] (0.1-300.0)	
Vib. freq. damping setting	(PB54 VRF23)	123.45	▼ ▲	(0.00-0.30)	
Res. freq. damping setting	(PB55 VRF24)	123.45	▼ ▲	(0.00-0.30)	



Vibration suppression control ON

— Motor side
— Load side

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Индикация времени работы Серво (аналог MR-Configurator 2)



Amplifier life diagnosis

01/15/2018 17:36



St. :56 Name:ABCDEFGHIJKLMNQPQRSTUVWXYZabcdefghijklm

Display the total time when the power is on after shipping from our company.

Cumulative energization time	Estimated life (smoothing capacitor)
123456 h Approximately 10 Year	
123456.00 Year	Estimated life (cooling fan) Approximately 10000-30000 h

+

The number of on/off times of the inrush relay after shipping from our company.

The number of on/off times of the inrush relay	Estimated life
123456 Number of times Approximately 100000 Number of times	



Displayed lives are only indications.
Actual replacement times differ according to use or environment.
If you find any abnormality, replacing is needed.

Menu Tuning One-touch tuning Machine diagnosis **Amplifier life diagnosis** Alarm Manual Display Back

Индикация потребления электричества (аналог MR-Configurator 2)



Operation Monitor 2/2			
Item	Current Value	Unit	
Oscillation Detection Frequency	123456	Hz	
Number of Tough Drive Operations	123456	times	
Unit Power Consumption	1234567890	W	
Unit Total Power Consumption	1234567890	Wh	
			
+			
Menu	Operation Monitor	Input/output Monitor	Back

СПАСИБО!