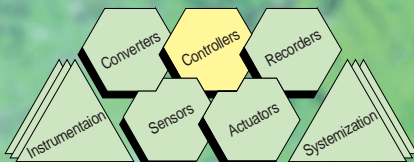


NEW DigitroniK Line

DMC50

Module Type Controller

*Multiple functions for free customization
gives you the ultimate in module type controllers*



• New tuning algorithm adopted •

A new concept in module type controllers brings to you advanced equipment controlling in a familiar, easy-to-use format.

Advanced process control, space saving and flexible networking are all realized.



Process control is evolving as controller designs progress.

The control market has been demanding a general-purpose controller which can handle advanced process control and that can flexibly respond to a diversifying network.

The DMC50 incorporates a completely new concept in controllers that has been developed to meet such customer demands.

This new DMC50 is a next generation, multiple advanced PID controller featuring the high accuracy, high stability and superior response that Yamatake is known for, and has multiple operation functions capable of freely constructing process logic.

The DMC50 is also flexible enough to support the ever-diversifying network and gives the user great freedom over advanced process control.

High accuracy and high response

The DMC50 can achieve the high accuracy control of 0.05 to 0.1%FS. Input sampling cycle is 50ms which is fast enough to respond to advanced process control.



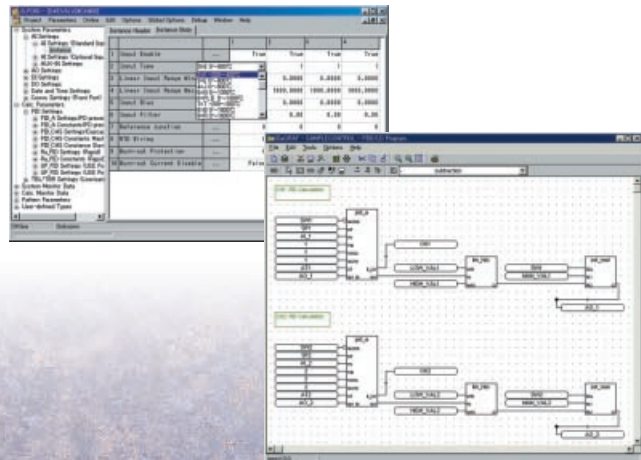
Input sampling 50ms

0.05 to 0.1%FS high accuracy

Analog process designing made easy

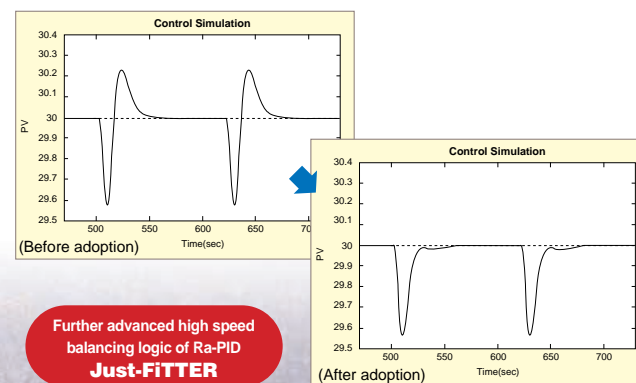
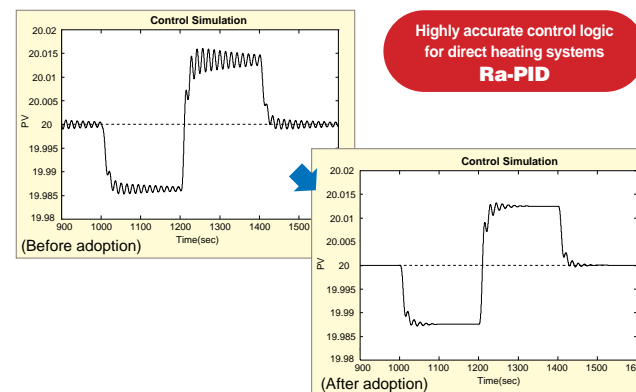
The DMC50 provides a development environment, which enables the user to freely design a custom advanced control process.

- Operation type: 100 types are available including mathematical functions, statistics, logic, time and control.
- Operation contents: More than 8 loop operations are possible by switching PID operation contents.
- One can select optimum language for describing advanced process programs.
- Highly efficient for program development and reutilization of programs.



Stable control achieved by incorporation of new algorithm

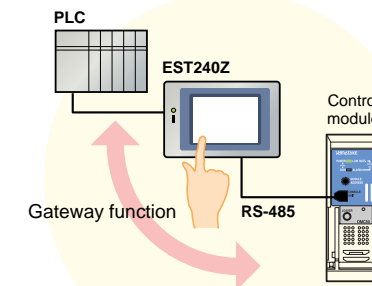
The DMC50 is ideal for designing a control system that meets process requirements including direct heating characteristics, heat retention characteristics, and disturbance characteristics. With the incorporation of the highly accurate control algorithm "Ra-PID", enhanced the stability and overshoot suppression functions offering stable control, which were previously unavailable, are now a reality.



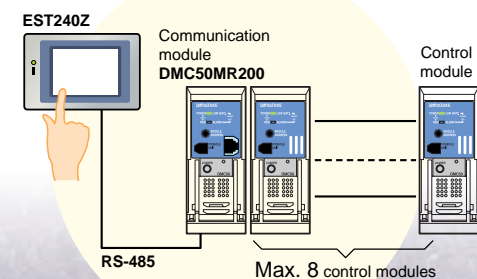
Wide variety of applications can be designed in combination with Yamatake touch panel.

An RS-485 modular jack is provided on the front panel of the control module. Direct connection with a Yamatake touch panel enables a wide variety of applications.

- Functions for indication and setting units can be easily realized.
- The gateway function eases the programming load of the conversion of data between the PLC and the DMC50.



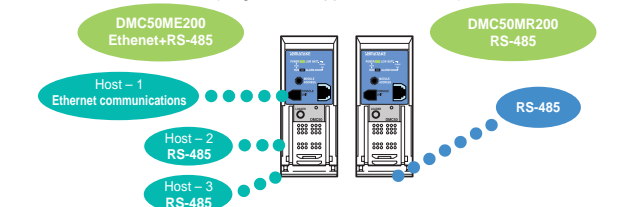
- One Yamatake touch panel can exchange data with maximum 8 control modules if connected with a communication module (DMC50MR200).



Flexible communication modules capable of responding to a range of networks

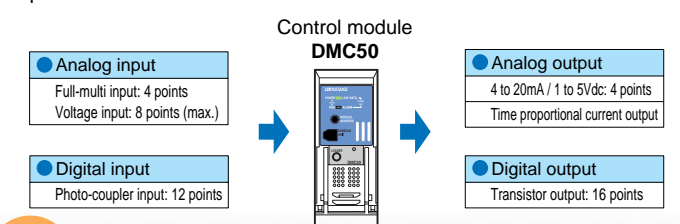
Two communication modules are available for the DMC50 to respond to wide variety of networks. DMC50ME200 can execute data communications to a host station through Ethernet.

- DMC50ME200: Ethernet + RS-485 (double host support)
- DMC50MR200: RS-485 (single host support, economical)



Signal input and output required for process control included (Control module)

The input and output signals necessary for responding to advanced process control are included.



2 types

High resolution type	Special type
DMC50CH400/200	DMC50CS400/200
Basic accuracy: ±0.05 to 0.1%FS	16,000 to 37,000°C: ±0.1°C Effective resolution: 0.0002°C

Specifications

General specifications

Module type	Communication module		Control module	
	Ethernet type	RS-485 type	High resolution (2/4 loops) type	Special (2/4 loops) type
Type	DMC50ME200	DMC50MR200	DMC50CH200/400	DMC50CS200/400
Basic model No.				
Power supply	Rated voltage	21.6 to 26.4Vdc		
	Max. consumption current	0.2A		0.6A
Basic conditions	Ambient temperature	23±2°C		
	Ambient humidity	60±5%RH (no condensation allowed)		
	Power supply	24Vdc±2%		
Operating conditions	Ambient temperature	0 to 50°C		
	Ambient temperature for guaranteed accuracy	—		0 to 50°C
	Ambient humidity	20 to 90%RH (no condensation allowed)		10 to 40°C
Max. number of connectable units	Max. 8 units of control modules connectable for one communication module			
Mounting	DIN rail mounting or screw mounting			
Weight	600g max.			

Individual specifications of control modules

Model No.	DMC50CH200	DMC50CH400	DMC50CS200	DMC50CS400	
Model	High function model		Special model		
Analog input	No. of input	2 to 4	4 to 8	2	
	Input type	Multi-range of T/C, RTD, linear voltage and linear current		Multi-range of RTD (dedicated to 4-wire type) and linear voltage	
	Input accuracy (Refer to specification sheets for further details)	CA: -200.0 to +1200.00°C Accuracy ±0.7°C Pt100: -60.00 to +100.00°C Accuracy ±0.15°C Linear: 4 to 20mA Accuracy ±0.05°C		Pt100: 16.000 to 37.000°C Accuracy ±0.1°C	
	Input sampling cycle	50ms min			
	Cold junction compensation accuracy	±0.7°C (under standard conditions)			
Cold junction compensation method	Selectable from the following: •Compensation in controller •Compensation in outside of controller (0°C only)				
Influence of wiring resistance	RTD input: 0.01%FS/Ω max. (within 0 to 10Ω range of wiring resistance), Allowable wiring resistance: 10Ω max.		RTD input: 0.01%FS/Ω max. (within 0 to 10Ω range of wiring resistance), Allowable wiring resistance: 10Ω max.		
Digital input	No. of input	6	12	6	
	Input type	Photo-coupler (bidirectional)			
	Input voltage	24Vdc±10%			
	Connectable output mode	No-voltage contact (relay contact) and open collector			
Auxiliary input	No. of input	1	2	1	
	Input type	0 to 5Vac, 0 to 6Vac, 0 to 10Vac, 0 to 12Vac, -1 to +6Vdc selectable by setting			
Analog output	No. of output	2	4	2	
	Output type	Linear output (0 to 20mAdc, 4 to 20mAdc, 0 to 10Vdc) and time proportional current output selectable			
Digital output	No. of output	8	16	8	
	Output mode	Open drain type FET output			

Selection Guide

Control module

I	II	III	IV	Description
Basic model No.	Module	Additional processing	Special processing	
DMC50	CH200			Module type controller
	CH400			High resolution model 2 loops
	CH400			High resolution model 4 loops
	CS200			Special model 2 loops
	CS400			Special model 4 loops
		0		No additional treatment
		T		Tropicalization
		K		Antisulfide treatment
		D		With inspection certificate
		B		Tropicalization with inspection certificate
		L		Antisulfide treatment with inspection certificate
			0	Without traceability certificate
			Y	With traceability certificate
			0000	(None)

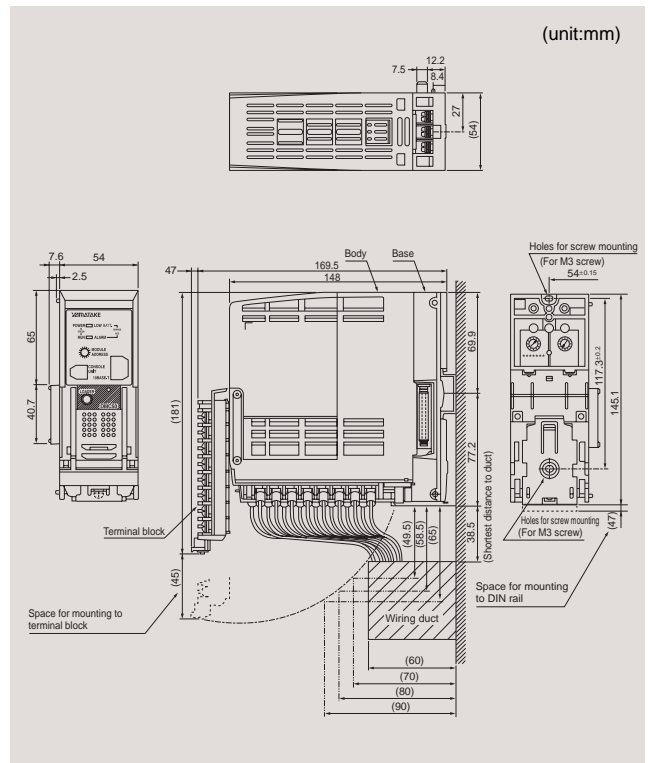
Communication module

I	II	III	IV	Description
Basic model No.	Module	Additional processing	Special processing	
DMC50	MR200			Module type controller
	ME200			RS-485 1 channel
				Ethernet + RS-485 2 channels
		0		No additional treatment
		T		Tropicalization
		K		Antisulfide treatment
		D		With inspection certificate
		B		Tropicalization with inspection certificate
		L		Antisulfide treatment with inspection certificate
			0	Without traceability certificate
			Y	With traceability certificate
			0000	(None)

Smart loader package

I	II	Description
Basic model No.	Others	
SLP-D50		Personal computer loader for DMC50 (CD-ROM)
	E50	English version, with a dedicated cable

Dimensions



Yamatake Corporation
Control Products Division

Head office: Totate International Building
2-12-19 Shibuya Shibuya-ku Tokyo 150-8316 Japan

Inquiries to: International Business Division
Phone: 81-3-3486-2331, Fax: 81-3-3486-2300 (Sales)
Phone: 81-466-27-2307, Fax: 81-466-27-9264 (Customer Service)
URL: <http://www.yamatake.com>

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