

DP3000G

GRAPHIC PROGRAM SETTER



DP3000G series is a graphic program setter employed high visibility 5.6" TFT color LCD display. Maximum 200 types of program pattern (Maximum 4000 steps) are stored and performance pattern is selectable. Setting output can be selected from high accuracy analog output (DC current/ voltage) and digital output with no setting errors using communications.



FEATURES

● Employing clear 5.6" TFT color LCD display

Graphic screen of pattern progress status, display of PV value/SV value/pattern/step/time and various monitor functions such as enlarged data display and external input/output status display are prepared.

● Easy program pattern settings on graphic screen

Maximum 200 patterns /Maximum 4000 steps settings, pattern repeat, linking between patterns and endless program setting are available.

● Time signal settings per step

Time signal 30 types are selectable. Maximum 28 points external output assignment is available.

● Storing settings in CF card

Setting management is easy as all settings including setting program pattern and each parameter are stored in C F card and readout from it.

PC software allows you to edit program pattern and parameter.

● Abundant external input / output functions

Remote contact, pattern selection, time signal and status signal output are available by digital input/output function.

Unit with external input 16 points and external output 28 points enables function assignment setting.

MODELS

DP3-□0G□00-□□□

Setting output signal

- 1 : Digital output (RS422A)
- 2 : Analog output (4 to 20mA)
- 4 : Analog output (0 to 10V)
- 5 : Analog output (0 to 1V)
- 7 : Digital output (RS485)

Communications interface *1

- 0 : None
- R : RS232C (COM1) * 2 *OP*
- S : RS485 (COM1) * 2 *OP*
- A : RS422A (COM1) * 2 *OP*
- B : RS232C (COM1) + RS232C (COM2) * 2 *OP*
- C : RS485 (COM1) + RS232C (COM2) * 3 *OP*
- D : RS422A (COM1) + RS232C (COM2) * 4 *OP*
- E : RS232C (COM1) + RS485 (COM2) * 2 *OP*
- F : RS485 (COM1) + RS485 (COM2) * 3 *OP*
- G : RS422A (COM1) + RS485 (COM2) * 4 *OP*

Case color

- G : Gray
- B : Black

External input / output signal

- 0 : None *OP*
- 1 : Digital input/ output (non voltage contact input)
- 2 : Digital input/ output
(External power supply spec for only input) *OP*

Transmitter power supply

- 0 : None
- 1 : Transmitter power supply *OP*

OP : Option

*1 Rear port exclusive use for COM1, front and rear port switchable for COM2.

*2 Option cannot be selected when setting output is 1 or 7 (digital output).

*3 COM1 is setting output when setting output is 7 (RS485).

Option cannot be selected when setting output is 1 (RS422A).

*4 COM1 is setting output when setting output is 1 (RS422A).

Option cannot be selected when setting output is 7 (RS485).

OPERATION SCREEN

● **Running status display at once**

Running status display of pattern progress, SV, time and time signal.



● **Enlarged data screen**

Enlarged display of SV and elapsed time (or remaining time).



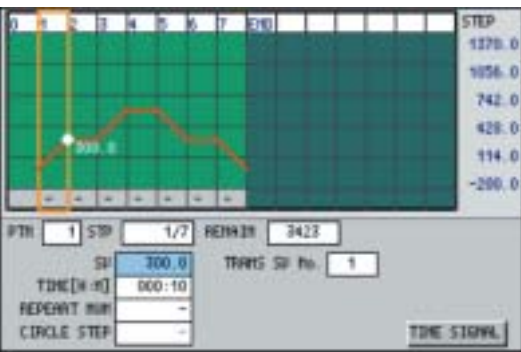
● **External input status display screen**



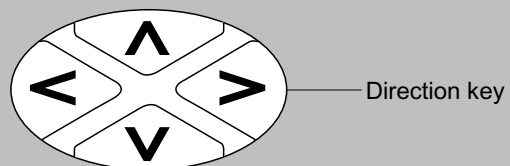
● **External output status display screen**



● **Program pattern setting screen**



KEY ARRANGEMENT



PROGRAMMING SPECIFICATIONS

Pattern set type: Target temp(SV)/Time or Ramp rate/Time
Time setting – Hour/Minute or Minute/Second
Ramp rate setting – Temperature/Minute or Temperature/Second

Number of steps: Up to 199 steps per pattern
Number of patterns: Up to 200 patterns
Total number of steps: Up to 4000 steps

Repeat: Pattern --- Up to 9999 times, Step --- up to 99 times

Step setup range: Target value --- Scale range
Time --- 0 to 999 hours 59 minutes or 0 to 999 minutes 59 seconds

Start temperature: Arbitrary set value start
Target value (SV) correction:
-99999 to 99999, decimal point linked with scaling

Fast-forward: Program fast-forward function provided (FAST)
(Approx 10 times or 60 times)

Sequence setting: Registration per step
•SV NO. 0, 1 to 8
•Time signal 30 types, all ON, all OFF, antiphase, step repetition

Progressing settings change:
Target value, time, ramp rate, SV correction

Additional function: Pattern link, circle step function, pattern edit (copy, delete)

OUTPUT SIGNAL SPECIFICATION

Output renewal period: 0.1 sec
Output accuracy ratings: $\pm 0.1\%$ of output span
Output resolution: Approx 1/50000
Output types: Analog output --- 4 to 20mA DC, 0 to 1VDC, 0 to 10VDC
Digital output --- RS422A, RS485
*Thermoelectromotive equivalent output is not prepared

EXTERNAL OUTPUT SIGNAL SPECIFICATION

Number of output: 28 points (function assignable per point)
Output type: Open collector output (24V DC, up to 50mA)
Time signal output: Default assignment --- 18 points
Output type --- ALL-ON/ ALL-OFF/ maximum of 30 types per step

Status output: Default assignment --- 10 points
Output type --- RUN/STOP, ADV, RESET, WAIT, FAST, END, ERR, SV-UP, SV-DOWN
Selective assignment --- Pattern/ step No.-BCD output

EXTERNAL INPUT SIGNAL SPECIFICATION

Number of inputs: 16 points (function assignable per point except external drive input)
Input type: Non voltage contact (contact capacity 12V DC, 2mA or more)
External power supply specification 12/24V DC ON when power is applied (up to 12mA/point)

External drive input: Default assignment --- 5 points
Input type --- RUN/STOP, ADV, RESET, WAIT, FAST
Selective assignment --- SV hold

Pattern select input: Default assignment --- 10 points
Input type --- 10 types of 1, 2, 4, 8, 10, 20, 40, 80, 100, 200
Selection method --- Select the number from 1 to 200 using BCD code

DISPLAY SPECIFICATION

Screen: 5.6" TFT color LCD
Display content: Operation screen
Home screen --- Pattern progress, pattern/step No., target value, status, elapsed time or remaining time, time signal
Enlarged data screen, DO display, DI display

Setting screen
Pattern/sequence setting, time signal, memory card management, maintenance, communications, setting change during operation

LCD backlight: 4 brightness adjustment levels

SETTING AND OPERATION SPECIFICATION

Operation key type: MENU, DISP, DIRECTION key, ENT, ESC, FNC, RUN, STOP, ADV, RESET

Setting and operation method:
Setting --- Menu calling/ cursor selection method
Operation --- Direct key operation (combined with FNC)

Menu setting:
Mode 0 (Execution steps setting)
Mode 1 (Operation status selection)
Mode 2 (Pattern and sequence)
Mode 5 (Setting output)
Mode 6 (Time signal)
Mode 8 (Communications setup)
Mode 9 (Memory card management)

Mode 10 (Enhanced setup)
Mode 11 (Maintenance)
Mode 12 (Help)

Operation: Operation start/stop (RUN/STOP), operation reset (RESET), stepping operation (ADV), fast-forwarding (FAST)

Display operation: Switching between operation screens
HOME screen (registered operation screen)
automatic display

Engineering port: Serial port on the front panel
(Custom cable connection)

MEMORY CARD SPECIFICATION (Card is optional)

Memory media: Compact flash (CF) card
Memory size: Up to 2 GB
Saved data: Setup parameters, program patterns, all data (for auto loading)
Function: Save/read/delete/verify
For program patterns, individual or all pattern save/delete selectable
Card format (simple format)

GENERAL SPECIFICATION

Rated power voltage: 100 to 240V AC 50/60Hz (universal power supply)
Maximum power consumption: 30VA
Reference operation condition:
Ambient temperature humidity range --- 21 to 25°C, 50 to 60%RH
Power voltage --- 100V AC $\pm 1.0\%$
Power frequency --- 50/60Hz $\pm 0.5\%$
Attitude --- Left / right $\pm 3^\circ$, forward/backward $\pm 3^\circ$
Warm-up time --- 30 minutes or more

Normal operation condition:
Ambient temperature humidity range --- -10 to 50°C, 10 to 90%RH
Power voltage --- 90 to 264V AC
Power frequency --- 50/60Hz $\pm 2\%$
Attitude --- Left / right $\pm 10^\circ$, forward/ backward $\pm 10^\circ$

Transportation condition:
At the packed condition on shipment from our factory
Ambient temperature humidity range --- -20 to 60°C, 5 to 90%RH
Vibration --- 10 to 60Hz 0.5G (4.9m/s²) or less
Impact --- 40G (352m/s²) or less

Storage condition: Ambient temperature humidity range --- -20 to 60°C, 5 to 90%RH
(No dew condensation)

Power failure protection:
The settings are kept using EEPROM and lithium battery backed up RAM

Insulation resistance: Between secondary terminal and protection conductor terminal --- 500V DC 20 Ω or more
Between primary terminal and protection conductor terminal --- 500V DC 20 Ω or more
Between primary terminal and secondary terminal --- 500V DC 20 Ω or more

Withstand voltage: Between secondary terminal and protection conductor terminal --- 500V AC for 1minute
Between primary terminal and protection conductor terminal --- 1500V AC for 1minute
Between primary terminal and secondary terminal --- 2300V AC for 1minute

Protection: Conformed to IP54

Case assembly material:
Case, Front bezel, --- Fire-retardant polycarbonate resin
External input/output and communications terminal board --- PBT

Color: Front bezel, case --- Gray or black
Terminal cover: Standard provision
Weight: Approx 1.6kg
Mounting: Panel mounting
Terminal screw: M3.5 (M3 for external input/output, setting output, communications terminal board)

OPTION SPECIFICATION

Transmitter power supply (Insulation type)

Power voltage: 24V DC
Current capacity: Up to 30mA

Communications interface

Number of communications points: Up to 2 points
Communications type: RS232C, RS422A, RS485
*COM1 is setting output for digital output
*COM2 for front and rear port switching

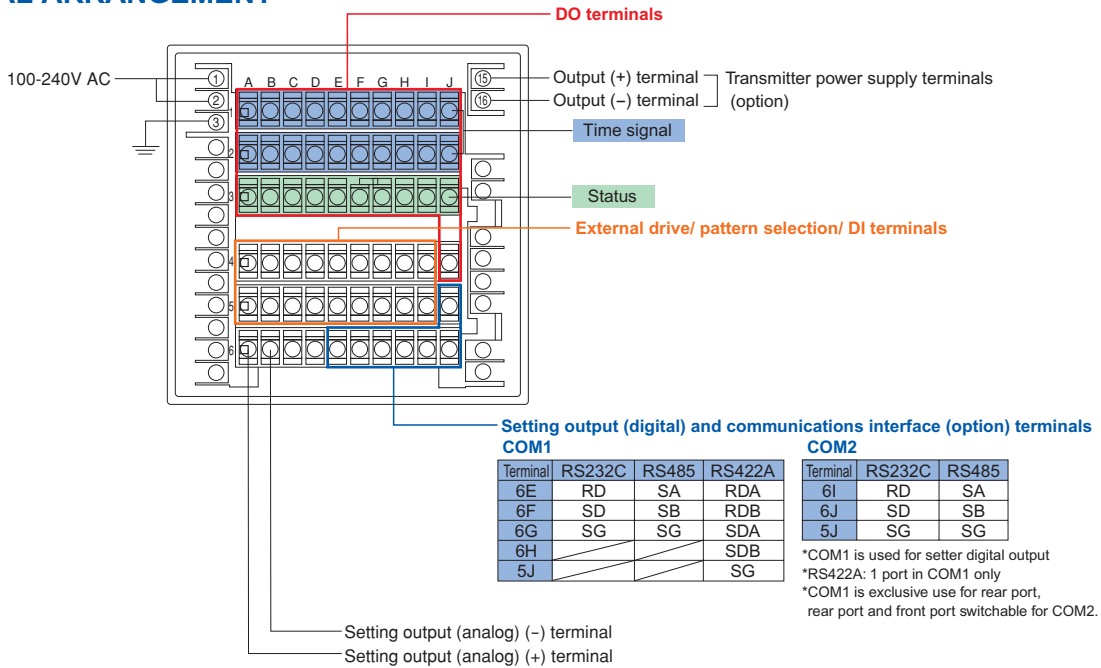
Protocol: MODBUS/PRIVATE

SOFTWARE

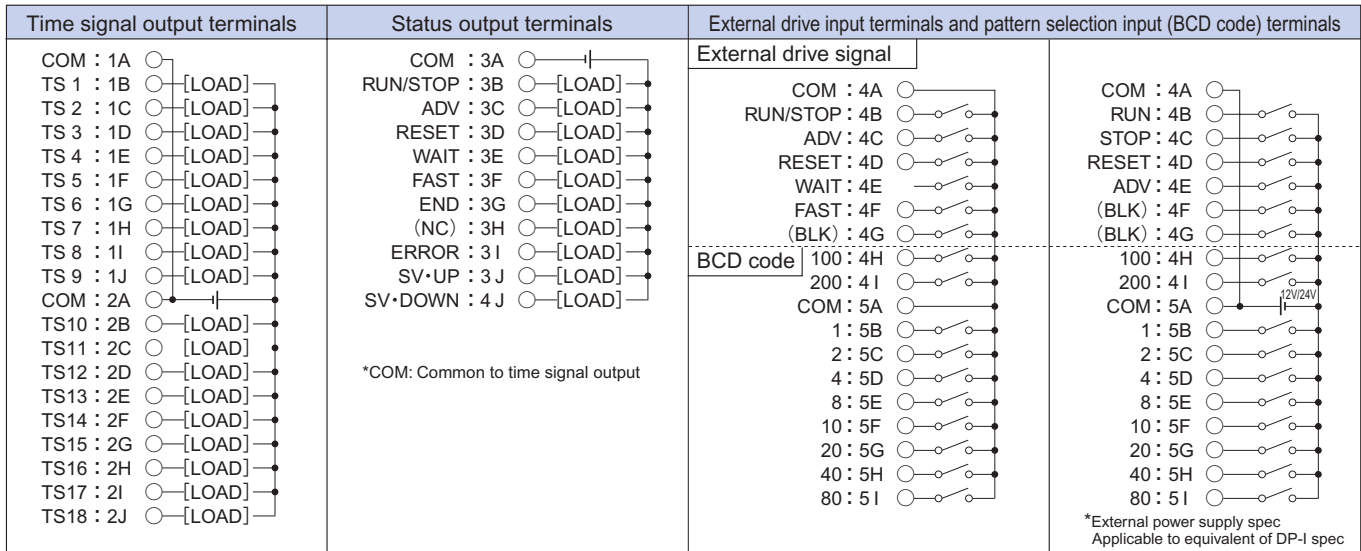
DP-G parameter editing software

·Program pattern editing / file management / printing
·Setting parameter editing / file management / printing
·CF card reading / storing for DP-G

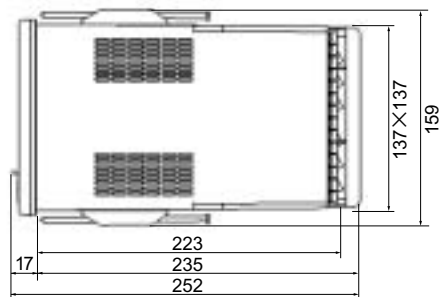
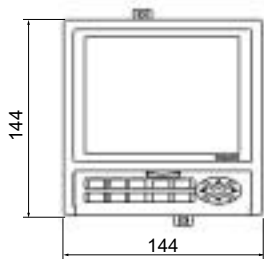
TERMINAL ARRANGEMENT



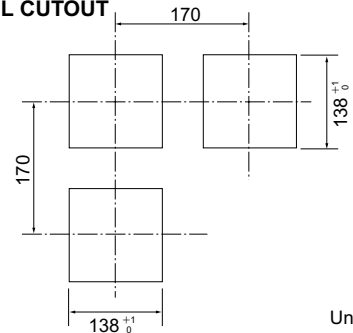
EXTERNAL INPUT/OUTPUT TERMINALS



DIMENSIONS



PANEL CUTOUT



Unit: mm

Specifications subject to change without notice. Printed in Japan (I) 2009. 4

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