

Pro-face

Human Machine Interface



Perfectly Clear!

Powerful!

Economical!

Point 1

Point 2

Point 3

Point 4

Point 5

Point 6

Small form factor with large touch screen!

The industry's fastest compact display terminal!

Six function keys

Perfectly clear display featuring graphic objects and graphs!

Compatibility with a broad range of PLCs!

Durable for tough environments!

Compact Housing with Full Graphic Display Pro-face Compact Operator Interfaces

Compact Programmable Operator Interfaces

Smartouch



ISO9001
JQA-1367

The perfect size!

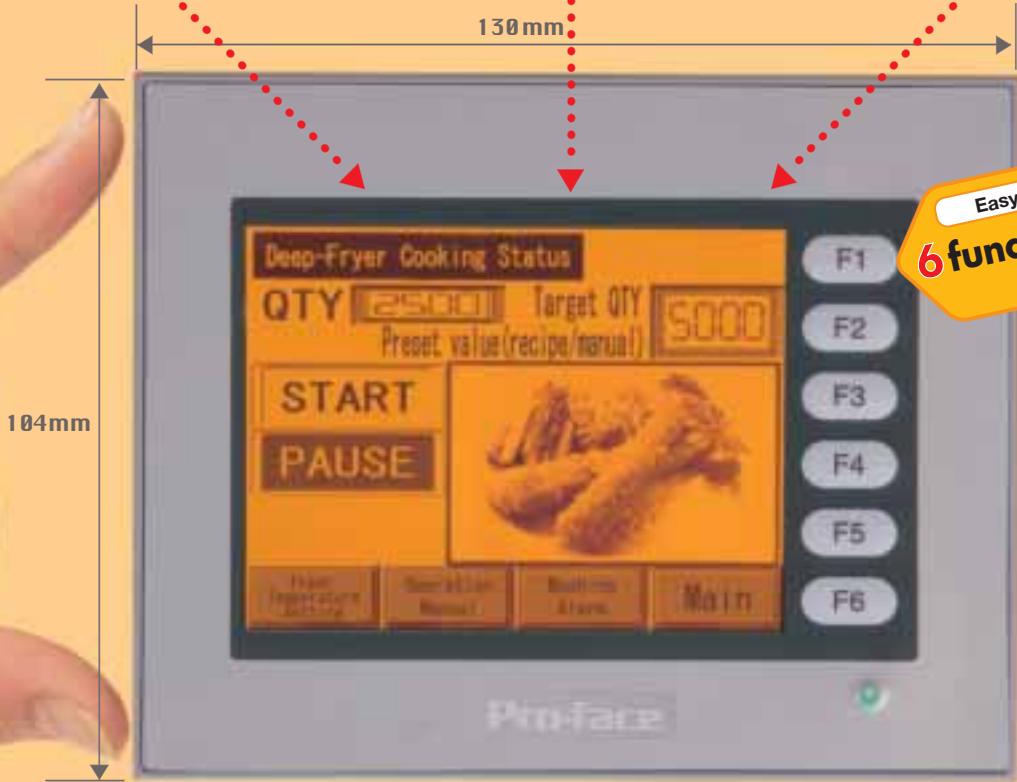
Giant performance in a compact display

New 3.8-inch display solutions

The first in the industry!
The most readable color for the human eye
Amber Color display

Trouble-free!
No bulb replacement
Note: Replacement may be required depending on handling and environment.

Pro-face supports
Multiple character sets
with on-screen display in various languages
Japanese English Chinese Korean European Languages



Easy screen navigation!
6 function keys!!

Powerful! *The Industry's Fastest!*

The Industry's fastest compact terminal!

Powered by a 100MHz RISC CPU for efficient, stress-free performance!

Perfectly Clear! *The first in the industry!*

Compact terminal with QVGA touch screen

Monochrome graphic objects and bitmap images clearly displayed in 8 tone graduations.

Economical! *Reduced Costs!*

One unit handles both graphic display and operations!

Lower costs by placing a range of components on screen!

Text display, lamps, meters, cables, etc. could cost \$1000 or more. Smart Touch can eliminate components and cut costs in half.

With Smart Touch you could even halve costs by eliminating components!

Note: Estimated savings are for illustrative purposes only.

SmartTouch has the answers!

POINT 1

With SmartTouch...

All switches, lamps and meters, etc., can be placed on the touch screen for space savings

POINT 2

With SmartTouch...

Single-cable connections enable simple wiring regardless of the number of switches or lamps added.

POINT 3

With SmartTouch...

Machinery status is made intuitive and easy-to-understand by graphic objects and graphs.

from Pro-face!



Tool Connector



Interface port location varies according to model type.

If you think screen design with graphic objects is difficult...

Think again!

Serial I/F

RS-422 Type

RS-232C Type

MPI Type

Connectable with Siemens PLCs

A selection of models with different serial ports for matching to host controllers

Host Controller



PLC or Other Controller

For an up-to-date listing of connectable controllers access:

www.proface-st.com

It's an industry best seller!

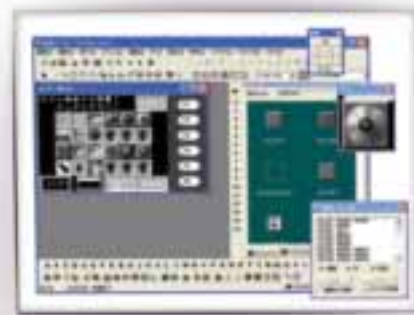


HMI Screen Editor and Logic Program Development Software

GP-PRO/PB III

Euro -©-Package02 Ver. 6.30

Graphic-Based Interface creation as easy as text screens.



But that's not all! Pro-face's expertise in the field of factory automation gives you...

The industry's best protocol support

Programless connection and compatibility with PLCs manufactured around the world.



For an up-to-date listing of connectable controllers access:

www.proface-st.com

Compliance with international standards

Designed for compatibility with worldwide standards of performance.



POINT 1

Drag and drop realistic graphic components using the Parts Palette!



Simply choose from a broad selection of 1200 samples, then position!

POINT 2

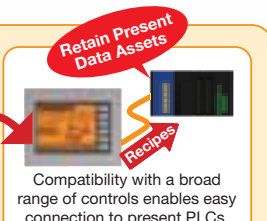
Text is created using attractive Windows® fonts for highly readable displays!



But the benefits don't end with the creation of screen displays. SmartTouch offers an array of functions for expanded applications.

POINT 4

With SmartTouch...



Compatibility with a broad range of controls enables easy connection to present PLCs.

For details access www.proface-st.com

Functional Specifications

Item	Model	ST400-AG41-24V	ST401-AG41-24V	ST402-AG41-24V
Type		Monochrome LCD		
Color		Amber only/ 2 levels of gray scale/ 8 levels of gray scale** (Color switching is done via software)		
Backlight		LED Backlight		
Resolution		320 x 240pixels		
Display Area		W76.7mm [3.02in.] x H57.5mm [2.26in.]		
Brightness Adjustment		2 levels of adjustment available via touch panel.		
Contrast Adjustment		8 levels of adjustment available via touch panel.		
Language Fonts		ASCII: (Code page 850) Alphanumeric (incl. Eur. characters) Chinese: (GB2312-80 codes) simplified Chinese fonts Japanese: ANK 158, Kanji : 6,962 (JIS Standards 1 & 2)(including 607 non-kanji characters) Korean: (KSC5601 - 1992 codes) Hangul fontsTaiwanese: (Big 5 codes) traditional Chinese fonts		
Text	8x8 dots	40 Char. x 30 rows		
	8x16 dots	40 Char. x 15 rows		
	16x16 dots	20 Char. x15 rows		
	32x32 dots	10 Char. x 7 rows		
Character	CharacterSizes	8x8, 8X16, 16X16 and 32X32 dot fonts		
	Font Sizes	Width can be expanded 1 to 8 times. Height can be expanded 1/2, 1 to 8 times.		
Memory	Application	User screen area 640KB (Approx. 200 screens at 3.2KB/screen)		
	Data Backup	96KB User backup memory Uses a rechargeable lithium battery*2		
Touch Panel Resolution		8 x 6 keys/screen1 or 2 point push - selectable		
Function keys		Switches: 6		
Interfaces	Serial I/F (X)	Asynchronous Transmission: RS-422 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 115,200bps	Asynchronous Transmission: RS-232C Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 115,200bps	Asynchronous Transmission: RS-485(MPI) Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 197,3Kbps
	Expansion Serial Inter-face (Y)	Asynchronous Transmission: RS-422 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 38,400bps		
	Tool Connector (TOOL)	Asynchronous TTL level nonprocedural command I/F <During screen file development> Used for transferring data to and from the ST application software and the ST. Used for data transfer with the 2-Port feature. <During Operation> Used for a variety of devices, including a bar-code reader.		

- *1. Depending on the color used, selecting 8 tonal graduations may cause the ST unit's screen to flicker and make it difficult to distinguish colors. Confirm that all colors display as expected prior to using this mode.
*2. A Lithium battery's lifetime is: 10 years when ST's ambient temperature is 25°C or less.

Optional accessories and software

Product name	Model	Description
GP-PRO/PBIII Euro C-Package Ver.6.30 (GP-PRO/PBIII for Windows Ver. 6.30 or higher **)	PFE-GP-PRO-D/III/EU-P04	Software to be used to create the ST's screen data. Installed in a personal computer. Use of SmartTouch requires GP-PRO/PB III Euro C-Package02 Ver. 6.30
Screen Data Transfer Cable	GPW-CB02	Connects the ST to a personal computer. Transfers screen data and user program(s).
Screen Data Transfer Cable (USB type)	GPW-CB03	
RS-232C cable*5	CA3-CBL232/5M-01 (5m)	Interface cables between the host (PLC) and the ST.
RS-422 cable*5	CA3-CBL422/5M-01 (5m)	
Mitsubishi FX Series Connection Cable	CA3-CBLFX/1M-01 (1m) CA3-CBLFX/5M-01 (5m)	Connects directly to Mitsubishi's PLC Programming port. Simultaneous use of programming console, however, is not possible.
Screen Protection Sheet (Hard Type)	ST400-DF01	Disposable, dirt-resistant sheet for the ST's screen. The ST's touch panel can be operated with this cover sheet attached. (5 sheets/set)
Installation Fastener*6	CA3-ATFALL-01	Fasteners to attach the ST to a panel.(4 fasteners/set)
Installation Gasket*6	ST400-WP01	Provides a moisture resistant seal when installing the ST. Same as the seal included in the ST's original equipment package.

- *5. Certain types of PLCs cannot be connected.
*6. Included with main unit. Additional replacement parts available.

Caution: Before operating any of these products, please be sure to read all related manuals thoroughly.

- All product names used in this brochure are registered trademarks of the respective manufacturers.
- For printing purposes, the colors in this brochure may differ from those of actual products.
- Actual user screen displays may differ from the screens shown here.
- All information contained in this brochure is subject to change without notice.

Global Head Office
Digital Electronics Corporation
8-2-52 Nanko-higashi
Suminoe-ku, Osaka 559-0031
JAPAN
Tel: +81-(0)6-6613-3116
Fax: +81-(0)6-6613-5888
http://www.pro-face.com
info@pro-face.com

European Head Office
Pro-face Europe B.V.
Jadelaan 34-36
2132 XW Hoofddorp
THE NETHERLANDS
Tel: +31 (0)23 55 44 099
Fax: +31 (0)23 55 44 090
http://www.proface.com
info@proface.com

France
Pro-face France S.A.S.
Le Vinci 7
1, rue Henri Becquerel
77290 Milly-Mory
FRANCE
Tel: +33 (0)1 60 21 22 91
Fax: +33 (0)1 60 21 22 92
http://www.proface.com
info@proface.fr

Germany
Pro-face Deutschland GmbH
Albertus-Magnus-Straße 11
42719 Solingen
GERMANY
Tel: +49 (0)212 258 260
Fax: +49 (0)212 258 2640
http://www.pro-face.de
sales2@pro-face.de

Italy
Pro-face Italia S.p.A.
G. di Vittorio 26 Bovisio Masciago
20030 (MI)
ITALY
Tel: +39 0362 59 96 1
Fax: +39 0362 59 96 69
http://www.proface.com
info.italia@proface.com

Scandinavia
Pro-face Scandinavia ApS
Copenhagen
Vallensbækvej 18A
DK-2605 Brøndby
DENMARK
Tel: +45 70 22 01 22
Fax: +45 70 22 01 33
http://www.proface.com
info@proface.dk

United Kingdom
Pro-face UK Ltd
Pro-face House 8 Orchard Court
Binley Business Park
Coventry CV3 2TQ
ENGLAND
Tel: +44 (0)2476 440088
Fax: +44 (0)2476 440099
http://www.profaceuk.com
info@profaceuk.com

Spain and Portugal
Pro-face España
Avd. Eduardo Corbella No 168 Local B
Apartado de Correos No 62
E-08440 Cardedeu Barcelona
SPAIN
Tel: +34 (0)93 846 07 45
Fax: +34 (0)93 845 48 68
http://www.pro-face.es
central@pro-face.es

China
Wuxi Pro-face Electronics Co., Ltd.
Shanghai Office
Room 2001, Singluar Mansion
No.322, Xian Xia Road
Shanghai 200336
P. R. CHINA
Tel: +86-(0)21-6208-6367
Fax: +86-(0)21-6208-4816
http://www.proface.com.cn
proface@proface.com.cn

South Korea
Pro-face Korea Co., Ltd.
4th floor, Cheil Bldg. 94-46
Youngdeungpo-Dong
7Ka, Youngdeungpo-Ku
Seoul 150-037
SOUTH KOREA
Tel: +82-(0)2-2630-9850
Fax: +82-(0)2-2630-9860
http://www.proface.co.kr
proface@proface.co.kr

Taiwan
Pro-face Taiwan Co., Ltd.
4F, No. 77, Section 3, Nanjing East Road
Taipei 104
TAIWAN R.O.C.
Tel: +886-(0)2-2507-1102
Fax: +886-(0)2-2507-1104
http://www.proface.com.tw
proface@proface.com.tw

Asia Pacific Regional Office
Digital Electronics Corporation
Bangkok Representative Office
2034/52 (11-07/4), 11th floor
Itathai Tower, New Phetchburi Road
Bangkapi, Huaykwang, Bangkok
10320
THAILAND
Tel: +66-(0)2-716-1733
Fax: +66-(0)2-716-1737

North/South American Head Office
Pro-face America, Inc. / Yxcom
750 North Maple Road
Saline, MI 48176-1292
U.S.A.
Tel: +1-734-429-4971
Fax: +1-734-429-1010
http://www.profaceamerica.com
sales.info@profaceamerica.com

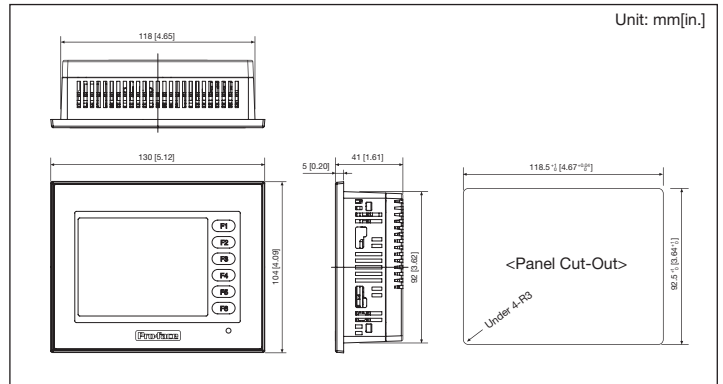
©2003 Digital Electronics Corporation All Rights Reserved.

General Specifications

Item	Model	ST400-AG41-24V	ST401-AG41-24V	ST402-AG41-24V
Rated Voltage		DC24 V		
Rated Voltage Range		DC19.2V to 28.8V		
Power Consumption		7W or less		
Voltage Endurance		AC500V 20mA for 1 minute(between charging and FG terminals)		
Insulation Resistance		20MΩ or higher at DC500V (between charging and FG terminals)		
Ambient Operating Temperature (Cabinet Interior) (Panel Face)		0°C to +50°C*3		
Storage Temperature		-20°C to +60°C		
Operating Humidity		10%RH to 90%RH(Non condensing, wet bulb temperature: 39°C or less)		
Storage Humidity		10%RH to 90%RH(Non condensing, wet bulb temperature: 39°C or less)		
Vibration Resistance		IEC61131-2 compliant When vibration is NOT continuous 10Hz to 57Hz 0.075mm, 57Hz to 150Hz 9.8m/s ² When vibration is continuous 10Hz to 57Hz 0.033mm, 57Hz to 150Hz 4.9m/s ² X, Y, Z directions for 10 times (80min.)		
Noise Immunity (via noise simulator)		Noise Voltage: 1,000Vp-p Pulse Duration: 1μs Rise Time: 1ns		
Electrostatic Discharge Immunity		6kV (complies with EN 61000-4-2 Level 3)		
Corrosive Gasses		Free of corrosive gasses		
Pollution Degree		Pollution Degree 2		
External Dimensions		W130mm [5.12in.] x H104mm [4.09in.] x D41mm [1.61in.]		
Weight		400g (1.1lb) or less		
Cooling Method		Natural air circulation		

- *3. The LCD displays of ST may occasionally blur when they are used for hours at over 40°C ambient operating temperature. This is a temporal phenomenon. After the temperature returns to normal, the normal display will be restored. The ST's operation will not be affected even though the display is blurred.
*4. The front face of the ST unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Therefore, prior to installing the ST be sure to confirm the type of conditions that will be present in the ST's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

Dimensions



ACCESS!! For more information
www.proface.com

Please access our homepage where you can find a whole host of materials, including sample logic programs and