

HMI Screen Design for Engineers.

## Who Is This Design For?

> Table			Dark Silver	
01	Error excessive area	640	06	Speed loop derivative gain
02	In-position area	480	07	Speed feed-forward coefficient
03	Position loop gain	384	08	Spd. up feed-forward coefficient
04	Speed loop proportional gain	256	09	Torque command filter
05	Speed loop integral gain	512	10	Directive multi-ply, molecules

# Speed and Response



As an HMI specialist, we at Pro-face see a lot of different HMI units from our customers. When we provide technical support for slow screen updates, one of the primary causes is the placement of too many parts. As the volume of communication with PLC increases, more loads are applied on updating a screen, which in turn takes more time to display.

1

Loads are applied to the Numeric Display and the Graph because the screen is always updated for them. When using those parts, you should divide the parts and place them on another screen. If the area of drawing appears quickly but it takes some time for the area of numerical values of the Numeric Display to appear when you change screens, loads may be applied on communication with the PLC.

2

When processing the PLC's device addresses with the D Script's arithmetic expression after reading them, the shorter an execution interval is, the more loads are applied. Please use more memory inside the HMI, such as USR or LS.

3

For the animation feature, loads are applied on screen update. If you plan to use a lot of animation, we recommend that you use an SP5000 series Power Box.

It is important to consider the things above, but what we would like you to first consider when designing screens is **“Usability.”** Pursuing “Easy to Use” and “Easy to Understand” is much more important than adopting an elaborate design.





# From 3D Design to Flat Design



Some engineers use many high-resolution images. For example, a metallic image or button design using shade and color gradation. That is referred to as “3D Design.”



Since the arrival of mobile devices, Flat Design has been getting more and more popular. Apple’s website or a Windows8 screen is a typical example. For this style, shade is rarely used and buttons are expressed by the addition of simple designs, such shapes and lines. Because the use of mobile devices is becoming more prevalent, this design is becoming the standard. Recent studies also reveal that more people tend to prefer Flat Design.



The best part about the Flat Design is that high-resolution images are no longer necessary. We advise those who use high-resolution images to make the switch to Flat Design to increase screen display speed.

# Who is this design for?



HMI's are intended to help people safely operate machines, so having a great design is not the end goal. When push comes to shove, you should never choose to sacrifice usability when creating an HMI screen.

**As the screen designer, remember that you are not the end user of the HMI.**

The ability to use machines differs between engineers and users. As an HMI screen designer, you should be looking through the eyes of the customers.

We encourage you to design your Pro-face HMI screens with the end user in mind. Doing so will add significant value to their machines!