# 3

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## The DURApulse GS30 Digital Keypad

The GS30 drive comes with a digital keypad equipped with four buttons and a multi-function dial. You can use the keypad buttons and the dial to control the drive, set parameters, change drive modes, etc. For more detailed control options, you can use GSoft2 software by connecting to a computer via USB (see Chapter 7).

It is also possible to use the GS4-KPD with the GS30 for expanded keypad functionality. For more about using the GS4-KPD, please see "Optional Advanced Keypad" on page A–45.


***GS30 Digital Keypad***

| *Descriptions of Keypad Functions* | |
|---|---|
| RUN | **RUN Key**<br>• Valid only when the source of operation command is the keypad.<br>• RUN can be pressed even when drive is in process of stopping.<br>• When in "LOCAL" mode, RUN is valid only when the source of operation command is from the keypad (drive default is Auto mode). Local mode can be set by changing P00.21 via the keypad, GS4-KPD, or software. |
| STOP RESET | **STOP/RESET Key**<br>*This key has the highest processing priority in any situation.*<br>• When the drive receives a STOP command, whether or not the drive is in operation or stop status, the drive will execute a "STOP" command.<br>• The RESET key can be used to reset the drive after a fault occurs. For those faults that can't be reset by the RESET key, see the fault records after pressing MENU key for details.<br>*NOTE: The ability to STOP the drive from the keypad is effective ONLY if the drive is configured to RUN and/or STOP from the keypad. Keypad STOP can be disabled by parameter 00.32, Digital Keypad STOP Function.* |
| MENU | **MENU Key**<br>Press MENU to return to the Main screen or cycle through the available menu options. |
| ◀ | **Left Shift Key**<br>• Changes values and parameters |
| | **Digital Dial**<br>The Digital Dial acts as both a potentiometer and a button.<br>Rotate to select parameters or adjust values<br>• Press to confirm selections (acts as ENTER key)<br>The Digital Dial can also be set as the main frequency input. Set P00.20 or P00.30 to "0: Digital Keypad". |

### Keypad Indicator LEDs

The left and right sides of the digital display contain a series of LEDs that light up to indicate certain drive functions.

| Descriptions of LED Functions | |
|---|---|
| ***RUN*** | **Steady ON**: Drive is running.<br>**Blinking**: Drive is stopping or in base block.<br>**Steady OFF**: Drive is not running. |
| ***FWD*** | **Steady ON**: Drive is operating in Forward mode.<br>**Blinking**: Drive is changing direction.<br>**Steady OFF**: Drive is operating in Reverse mode. |
| ***REV*** | **Steady ON**: Drive is operating in Reverse mode.<br>**Blinking**: Drive is changing direction.<br>**Steady OFF**: Drive is operating in Forward mode. |
| ***STOP*** | **Steady ON**: Drive is stopped or in the process of stopping.<br>**Blinking**: Drive is in standby (run but does not output).<br>**Steady OFF**: Drive is not currently executing an operational (STOP) command.<br>*NOTE: The ability to STOP the drive from the keypad is effective ONLY if the drive is configured to RUN and/or STOP from the keypad. Keypad STOP can be disabled by parameter 00.32, Digital Keypad STOP Function.* |
| ***PLC*** | **Steady ON**: PLC STOP (PLC 2) initiated.<br>**Blinking**: PLC Run (PLC1) initiated.<br>**Steady OFF**: No PLC functions implemented (PLC 0). |

## GS30 Keypad Operation

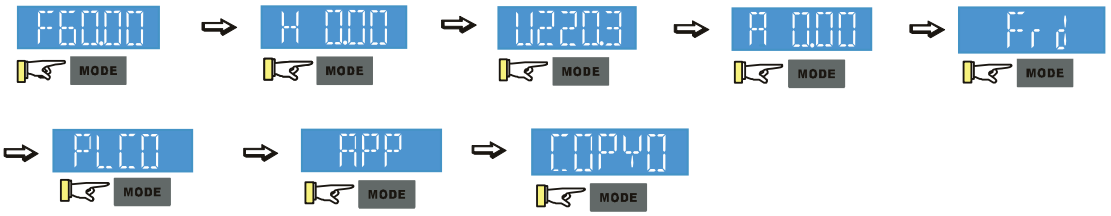
The following section details digital keypad operation for the GS30 series drives.

### *GS30 Keypad Function Examples*

| *Instruction* | *Press Key* | *Display Will Show* | |
|---|---|---|---|
| First screen to display after power up. | n/a | Displays the present frequency setting of the drive |  |
| Press MENU once from startup. | MENU | Displays the actual output frequency of the drive |  |
| Press MENU twice from startup. | MENU | Displays user defined output |  |
| Press MENU three times from startup. | MENU | Displays output current |  |
| Press MENU four times from startup. Displays Frd if the drive is currently configured for Forward operation. Scroll with the dial to change to rEv for Reverse. Press ENTER to confirm the change. | MENU, ENTER | Displays the Forward command if configured for Forward operation. |  |
| | | Displays the Reverse command if configured for Reverse operation. |  |
| Press MENU five times from startup. Displays the current PLC setting. Scroll with the dial to change the PLC setting, then press ENTER to confirm. | MENU, ENTER | Displays the current PLC setting. |  |
| Press MENU six times from startup. Used to Read/Write parameters between the drive and the local keypad. Scroll with the dial to select READ or WRITE, FILE Number and Save | MENU, ENTER | Parameter Read/Write function |  |
| From the Frequency setting, Actual Frequency, User, Amps, or Frd/rEv screen, press ENTER to bring up the parameter number (Format XX.YY). Scroll with the dial to change the parameter number as needed, then press ENTER to alter the parameter value. | ENTER<br>ENTER | Displays the parameter number |  |
| From the parameter number screen, press ENTER to bring up the current value of the selected parameter. Scroll with the dial to adjust the value. Press ENTER again to confirm the choice. | ENTER<br>ENTER | Displays the value of the selected parameter |  |
| Once a desired parameter value has been set using the Dial, press ENTER to save the choice and display End message. | ENTER | End message. Displays when data has been accepted and stored |  |
| Displays when an external fault is detected. | n/a | External fault message |  |
| Displays when data is not accepted or the value exceeded | n/a | Error message. |  |

### Main Page

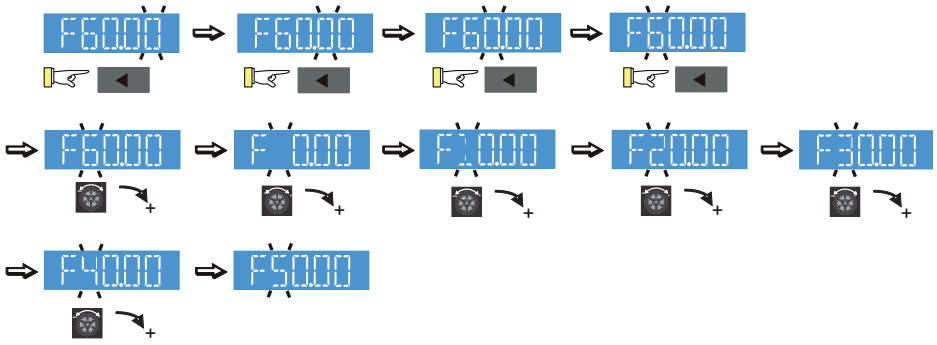
When the drive first starts up, it will display the present frequency setting of the drive. To access the other main pages of the keypad, press the MENU button to cycle through the options.



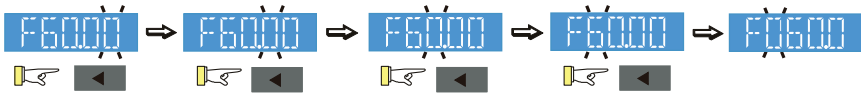

*NOTE: In screen selection mode, press ENTER to set the parameters.*

*NOTE: APP only displays when parameter 13.00 does not equal 0.*

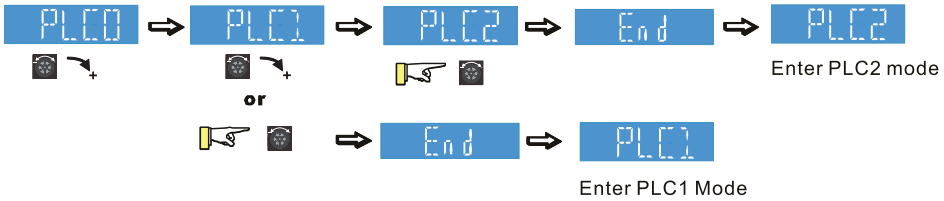
### Frequency Command Settings

| Frequency Command Instructions | |
|---|---|
| ***Change Frequency Setting*** | The default maximum frequency setting (parameter 01.00) is 60.00 Hz. The command frequency on the drive can not be set higher than the maximum frequency value. To set the command frequency value, follow the instructions below:<br><br>1) Press the MENU key until F60.00 is displayed (see "Parameter Settings" on page 3–6.).<br>2) Press the LEFT SHIFT button to select the digits you wish to change. Turn the Digital Dial to cycle through the values available.<br>3) Press and hold MENU until no digits are blinking.<br>  <br>Note: To change the value to something greater than 99.99, follow the steps above but press the LEFT SHIFT button until the left-most digit (normally blank) switches to a blinking 0. Then use the Digital Dial to change to the desired value. The maximum frequency value is 599.00. If a higher value is chosen, the parameter screen will display Err, followed by 599.00 (the maximum possible), then revert to the previous good value. |

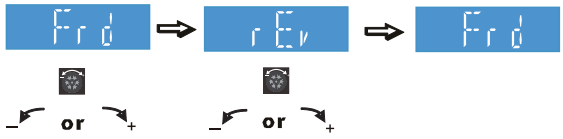
## Parameter Settings

| Parameter Setting Instructions | |
|---|---|
| ***Setting Parameters*** | 1) Press MENU until the parameter screen appears (typically H 0.00).<br>2) Press the Digital Dial (ENTER) to switch to the parameter group, then turn the Digital Dial to select the desired group number.<br>3) Press the Digital Dial (ENTER) to switch to the parameter number, then turn the Digital Dial to select the desired number.<br>4) Press Digital Dial (ENTER) to switch to the parameter value, then turn the digital dial to cycle through the available options.<br>5) Press the Digital Dial (ENTER). If END displays, the parameter was successfully updated. If Err displays, the chosen configuration is not viable.<br>  |
| ***Unsigned Parameter Settings*** | To set an unsigned parameter value, follow the steps for "Setting Parameters" above, until you reach the parameter value. Then:<br>1) Press and hold the LEFT SHIFT button until the last digit of the parameter value begins to blink.<br>2) Change the value by turning the Digital Dial.<br>3) Press the LEFT SHIFT button to move to the next digit, and change its value using the Digital Dial. Repeat the process until all digits have been configured as desired.<br>  |

## PLC Settings

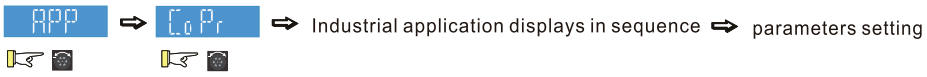
| PLC Setting Instructions | |
|---|---|
| ***Setting the PLC Mode*** | The GS30 drive can be set to three PLC modes - PLC0 (Disable), PLC1 (Run), and PLC2 (Stop). To set the PLC mode, follow the steps below:<br>1) From the startup screen, press MENU until the keypad displays PLCx (where x=0, 1, or 2, depending on your current setting).<br>2) Turn the Digital Dial to select the desired PLC mode, then press the Digital Dial (ENTER). The screen will display End, and the chosen PLC mode is set.<br>  |

## Setting Direction

| Setting Direction Instructions | |
|---|---|
| ***Setting to Forward or Reverse Mode*** | The GS30 drive can be configured to run in forward (Frd) or reverse (rEv) mode. To set the drive direction:<br>1) From the startup screen, press the MENU button until Frd or rEv appears.<br>2) Use the Digital Dial to cycle through the options. The option is selected as soon as it displays.<br>3) Press MENU to return to the other screens.<br>  |

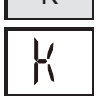
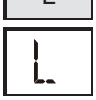
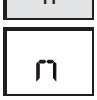
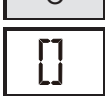
## Application Settings

The APP setting can be used to provide a shortcut to application specific parameters for easier access through the keypad. The application selection page does not display unless parameter 13.00 is set to a value other than zero. By default, parameter 13.00 is set to 0.

<table>
<tr><th colspan="2">Application Settings Instructions</th></tr>
<tr><td>Enabling the APP keypad screen</td><td>To enable the APP keypad screen, set parameter 13.00 to a value other than 0. Use the instructions under “Parameter Settings” on page 3–6 to navigate to parameter 13.00 and set a value.<br><br>The following options are available:<br><br>
<table>
<tr><th>Value</th><th>Keypad Display</th><th>Description</th></tr>
<tr><td>0</td><td>n/a</td><td>APP is off and does not display.</td></tr>
<tr><td>1</td><td>USEr</td><td>User-defined application.</td></tr>
<tr><td>2</td><td>CoPr</td><td>Compressor application</td></tr>
<tr><td>3</td><td>FAn</td><td>Fan application</td></tr>
<tr><td>4</td><td>PUNP</td><td>Pump application</td></tr>
<tr><td>5</td><td>CnYr</td><td>Conveyer application</td></tr>
<tr><td>6</td><td>CnC</td><td>Machine tool application</td></tr>
<tr><td>7</td><td>PAC</td><td>Packing application</td></tr>
<tr><td>8</td><td>tiLE</td><td>Textile application</td></tr>
</table></td></tr>
<tr><td>Using the APP setting</td><td>To verify the current APP setting of the drive, press the MENU button until APP appears, then press Digital Dial (ENTER) to display the current APP setting. If APP does not appear, parameter 13.00 is set to 0 and APP is disabled.<br><br>If APP is enabled, press Digital Dial (ENTER) again to access a list of application appropriate parameters. Use the Digital Dial to view parameter numbers. Press the Digital Dial (ENTER) to select a parameter, then modify per the standard parameter setting instructions.<br><br>For example, if parameter 13.00 is set to 2:<br> 
</td></tr>
</table>

### *Reference Table for Digital LED Character Display*

The table below shows how characters display on the LED screen with the number or letter represented above it. This can helpful for characters such as "V" that do not display normally on the LED.

| Number | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16-segment display |  |  |  |  |  |  |  |  |  |  |
| Alphabet | A | a | B | b | C | c | D | d | E | e |
| 16-segment display |  | - |  |  |  |  |  |  |  |  |
| Alphabet | F | f | G | g | H | h | I | i | J | j |
| 16-segment display |  |  |  | - |  |  |  |  |  |  |
| Alphabet | K | k | L | l | M | m | N | n | O | o |
| 16-segment display |  | - |  | - |  | - |  |  |  |  |
| Alphabet | P | p | Q | q | R | r | S | s | T | t |
| 16-segment display |  | - |  |  |  |  |  | - |  |  |
| Alphabet | U | u | V | v | W | w | X | x | Y | y |
| 16-segment display |  |  |  |  |  |  |  | - |  | - |
| Alphabet | Z | z | | | | | | | | |
| 16-segment display |  | - | | | | | | | | |