

# User Manual

## GlueControls.com J4000-WiFi 4 Channel Glue Distance Type Pattern Controller

### Features:

- **4 Independent Current Controlled Outputs**
- **4 Patterns Per Channel for 16 total patterns**
- **Anti-Drip on belt stop**
- **Low speed lockout setting**
- **Large 4x40 Character LCD display**
- **WiFi Configuration and Monitoring**
- **Easy to use Graphical User Interface**
- **1 Encoder Wheel Input**
- **1 Optical Trigger Input**
- **Compatible with GMS Microglue HP Cold Glue Nozzles**
- **Compatible with GMS Microglue Encoder Wheel and Optical Sensor**

### Overview:

The J4000 is a 4 Channel Pattern Controller for folding and gluing industry.

Integrated WiFi connectivity enables remote configuration, monitoring and job management. The Web Interface allows Glue Pattern Visualization to save time during setup.

When the optical trigger input is set, each channel will execute the specified pattern according to actual production line speed. The software purge feature allows clearing of dried glue in the nozzle.

The device can also be used to drive other types of inductive loads including air solenoids and relays. The current can be adjusted to match the current rating of the driven device.

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## Quick Start

The quick start guide will help you get set up and running on the J4000 Glue Pattern Controller. The user interface has been designed to be easy to use and intuitive. The machine is configured with the twisting knob and the LCD display.

### Navigation the J4000-WiFi Menu and Selecting Items

Turning the knob will move the cursor (which looks like this: > ) between selectable or editable menu items. When the cursor is to the left of the item you wish to edit, push in on the knob and you will select the item. If the item is editable, the cursor will flash and change to an asterisk icon (which looks like this: \* ). When the asterisk icon is displayed, turning the knob will adjust the desired value. To save and apply this value, push the knob again and the navigation cursor will appear.

Certain selections will open up a new screen. To navigate back to the previous screen, position the cursor ( > ) next to the back item and select.

### Setting up and configuring the Encoder

The encoder input is used as a conveyor speed reference by the machine and **must be set up correctly**.

We recommend the GlueControls.com encoder Part Code: GC-ENCODER-ASSEMBLY

The encoder wheel should be in contact with the conveyor belt of the machine. The J4000 is compatible with GMS style encoders with the RJ-45 plug. If you wish to connect your own encoder signal, make sure it is compatible with the input as described in the specifications.

The user must inform the machine how many encoder pulses are in an inch, so that the machine can calculate the correct speed. To do this, start on the home screen by pushing back, if available.

Select the “MACHINE” item to enter the Machine Configuration. Navigate the cursor to the “PULSE/IN” setting and enter the number of pulses per inch. A typical settings for GMS encoders is 100.

## Setting up the Optical Sensor

The optical sensor is required to tell the machine when a product is entering the work zone. The J4000 is compatible with GMS style Optical Sensors with the RJ-45 plug. If you want to interface your own sensor, see the specifications for more information about this input. Contact support if you have any questions.

## Setting up the Glue Gun Outputs

The J4000 comes equipped with 4 independent current controlled outputs. The maximum voltage of these outputs is 48V DC. The voltage will vary depending on the impedance of the connected device. Current controlled outputs are ideal for driving all kinds resistive or inductive loads such as coils, relays, solenoids and small DC motors. However, the correct current setting should be configured to prevent burning out the connected coil. For example, if the connected relay specifies 1 W 12V then the current should be 0.08 A

For GMS HP cold glue guns, the typical current setting is 0.6 A

Please be advised that the outputs will go up to 48 V depending on the connected load, so make sure if you connect a digital device that it can tolerate 48 V.

Navigate to “CHANNEL” and then “CURRENT” and edit the current for the desired channel.

## Configuring Glue Gun Outputs

The J4000 supports 4 physical channels and each channel supports 4 virtual events. An event is a line or pattern of glue. Most applications will use only 1 event per channel.

To get started, navigate to menu item “CHANNEL” and select “CHANNEL 1”. Set the “PROD LEN” to the physical length of your product, as seen by the glue gun.

Next, navigate to “OPTO DIST” and set this to the distance from your optical sensor to the glue gun nozzle.

Navigate to “ENABLED” and set it to “ON”

Navigate to “EVENT #1” and set the “START AT” to the distance from the start of the product to where you want the glue pattern to begin. Set the “RUN FOR” setting to the length of the desired glue line. Set the “STITCH ON” and “STITCH OFF” settings to create the desired glue dot pattern.

If a line pattern is desired, make sure to set the “STITCH ON” value to a non-zero number, while keeping the “STITCH OFF” value at 0.

## Output Compensation

Output compensation settings allow you to fine tune the J4000 to run at faster speeds. It compensates for physical conditions which would alter the glue pattern at higher speeds.

“ON COMPENSATION” adds the specified amount of Glue ON time from the beginning of each glue time..

“OFF COMPENSATION” subtracts the specified amount of glue ON time from the end of each glue time.

“MIN ON” ensures that no glue ON time is shorter than this setting.

“MIN OFF” ensures that no glue OFF time is shorter than this setting.

## Software Purge

Software purge is a feature that allows you to enable the glue head for a short amount of time using the user interface. This allows cleaning of clogged glue heads or testing. This setting is available in the settings menu of each CHANNEL.

## Min Speed

Min Speed is a feature that will gate all outputs dynamically if the belt speed is below the configured threshold. This can help with jogging and setting up a glue job. It also prevents glue from oozing if the belt is stopped.

## WiFi Remote Monitoring, Configuration and Job Management

The WiFi functionality of the J4000-WiFi is developed to offer convenience and Job Management features to improve your workflow. Before the WiFi features are available, you must connect the J4000-WiFi to your 2.4 GHz WiFi Network.

### Configuring the WiFi Network

Navigate and select the “WiFi” option on the homepage. This page will display the WiFi status page. On a WiFi capable device such as your phone or laptop computer, connect to the open WiFi Network called J4000-xxxxxxx. The “x” are replaced with your unique J4000 identifier.

Once you are connected, your device should automatically navigate your web browser to the configuration page. If this does not happen, type “192.168.4.1” into your web browser URL bar to reach the setup page.

Select “Configure WiFi”. On the next page, select your local WiFi network you want to connect your J4000-WiFi to. Type the password for this WiFi network into the password box. This allows the J4000-WiFi to connect to your password protected network. Select “Save”.

If the connection is successful, the J4000-xxxxxxx network will disappear and your J4000-WiFi is now connected to the WiFi network. On the screen you should see the IP address given to your J4000-WiFi.

On your phone or laptop, ensure you are reconnected to your local WiFi network. Then navigate to the J4000 monitoring page by typing the IP address on the J4000-WiFi screen into your URL bar.

If you can reach this webpage, you have successfully configured WiFi and can proceed with the following sections.

### Monitoring Capability

On the J4000-WiFi webpage, you can see the real time job statistics also available on the J4000 display. These include belt speed, Total Pieces, and Pieces/Hour.

You can view the simulated glue pattern on the Glue Pattern Visualization section below the statistics.

These statistics are available anywhere on your local network from any connected device.

### Configuration Capability

On the J4000-WiFi webpage, you can modify and configure most of the J4000-WiFi internal settings. This includes glue patterns, events, output currents and more.

Make your changes by typing in the new value, or pushing the up/down keys when the blinking cursor is inside a textbox. Save your changes by clicking “Apply Changes” and your changes will be instantly applied. This can be done during glueing.

The Pattern Visualization area shows a simulation of the current glue settings. The grey dots or lines indicate applied glue, assuming belt movement from right to left. The Pattern Visualization will change in real time.

Using the web interface can prove faster and more productive than using the physical knob.

### Job Management

The Job Management feature is exclusive to the WiFi function of the J4000-WiFi. It allows you to associate a Job Name with a certain configuration. This configuration can then be saved locally to your phone or laptop, and restored at a later date.

#### Name your Job

On the J4000-WiFi webpage, type a Job Name into the Job Name textbox, and click “Apply Changes”. You will see the Job Name on the homepage of the J4000-WiFi LCD screen.

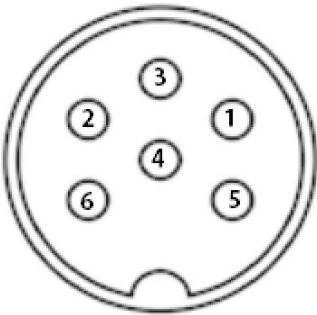
#### Save a Job

When you want to save a job’s settings for use at a later time, or to transfer to another J4000-WiFi machine, you can save the job locally on your computer or smartphone. Navigate to the webpage, and click “Backup Configuration”. You will download a file to your device containing all your J4000-WiFi settings. This includes all the settings to restore the machine to the current state.

## Restore a Job

To restore a backed up job, navigate to the J4000-WiFi webpage, and select “Restore Configuration” A selection dialog will appear. Select the job file you wish to restore. All the J4000-WiFi settings will be changed to the uploaded file.

## Channel 1-4 Output Wiring



**Front Panel View**

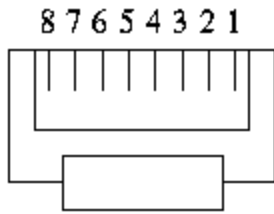
<b>PIN</b>	<b>FUNCTION</b>
1	GMS Purge
2	NONE
3	NONE
4	Positive Output*
5	Negative Output



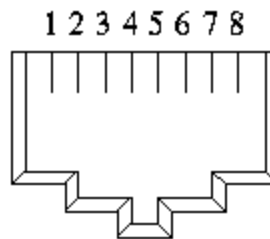
6	NONE
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\* Note: Pin 4 is permanently connected internally to 48V through a 2K resistor

### Opto trigger sensor NPN input wiring



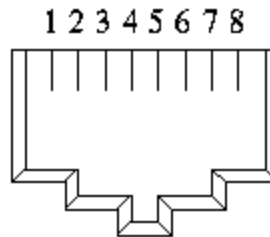
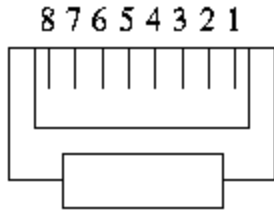
*End view of RJ45 Plug*



*Looking into an RJ45 Jack*

PIN	FUNCTION
1	NONE
2	NPN INPUT
3	+12V
4	+0V
5	NONE
6	NONE
7	NONE
8	NONE

## Speed Encoder Sensor NPN Input Wiring



*End view of RJ45 Plug*

*Looking into an RJ45 Jack*

PIN	FUNCTION
1	NONE
2	NONE
3	NONE
4	NONE
5	NPN INPUT
6	+5V
7	+0V
8	NONE

## Specifications

<b>Parameter</b>	<b>Value</b>
Input Voltage/Current	120-240 VAC 1A
Independent Channels	4
Events (Patterns) per Channel	4
Encoder Inputs	1
Optical Trigger Inputs	1
Output Type	Current Controlled
Output Maximum Voltage	48 V
Output Maximum Current	3 A
Total Maximum Output Power	60 W
Encoder Input Type	NPN
Encoder Supply Voltage	5 V
Optical Sensor Input Type	NPN
Optical Sensor Supply Voltage	12 V
Shutter Control	None
Kicker	None
Purge	Software + GMS Remote
Output time Compensation Function	Yes up to 10ms
Dimensions LxWxH	210mm x 131mm x 80 mm
Minimum Speed Lockout	Yes
Minimum Output Response Time	2 ms