



Global Caché GC-100 Network Adapter Template for Crestron Systems

Note: The GC-100 template is not supported by Crestron X-series control systems.

Signals/Parameters

Digital inputs: <Get_config_p>
<Version_p>
<Poll_p>
<Relay [1]...[3]>
<StopIR [1]...[6]>

Serial input: <GC_100_RX\$>
<IR_Port\$[1]...[6]>

Analog input <Model#>
<Module_poll#>

Digital output: <State>
<Relay_FB[1]...[3]>
<Digital_In_FB[1]...[6]>

Analog output: <Error#>
<Module#>
<Connector#>
<ID_sent#>
<ID_returned#>

Serial output: <GC_100_TX\$>
<Response\$>
<Version\$>



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Description

The GC-100 software template provides a versatile interface between Global Caché GC-100-06, GC-100-12 and GC-100-18 models via TCP/IP Ethernet channels. This template is based on the Application Program Interface described in "GC-100 API Specification." The template provides IR outputs, relay outputs, and digital inputs, and error handling.

Note: Serial I/O to the same GC-100 unit is not handled directly by this software template, but is sent through separate Crestron TCP/IP client symbols as described below.

Each GC-100 software module is paired with one Crestron TCP/IP client symbol to provide communication between the Crestron controller and the GC-100 Network Adapter. Each TCP/IP client must be assigned the IP address of the GC_100 hardware; the IP Table of the control system should list this IP address together with the IP ID of the TCP/IP Client. The service port numbers of the GC-100 Network Adapter should be entered in the <Port> parameter of each symbol. The port number is assigned as follows:

GC-100 software template	4998
First serial I/O port (all models)	4999
Second serial I/O port (GC-100-12/18)	5000

For more information on the TCP/IP client symbol, please refer to the Crestron help documentation.

Detailed parameter description

The GC-100 template provides an interface on several levels.

At the highest (or simplest) level, relays can be activated, digital inputs can be monitored, and IR sequences can be transmitted by using just three sets of signals (parameters). The number of I/O devices depends upon the GC-100 model (GC-100-06, GC-100-12, or GC-100-18):

<Relay[1]...[3]> will pulse or hold relays 1,2 or 3 respectively.

<Digital_In_FB[1]...[6]> reflects the state of digital inputs 1 through 6.

<IR-Port[1]...[6]> will transmit IR pulses as described by the character string sent to each input, as described in the Global Caché GC-100 API Specification, starting with the carrier frequency parameter.



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Note : Module and connector (connector address), and ID parameters are provided internally by the GC-100 template symbol.

The GC-100 template must be initialized with an analog value of 6, 12, or 18 to correspond to the GC-100 template using <Model#> before using the driver for the first time. The GC-100 software template is connected to the corresponding TCP/IP client symbol using <GC_100_TX\$> to transmit commands to the hardware and <GC_100_RX\$> to receive responses from the hardware.

At the next level, relay feedback can be monitored using <Relay_FB[1]...[6]>.

Digital input feedback for each hardware module can be polled by initializing the analog value of the input port with <Module_poll#> and pulsing <Poll_P>. To create special IR sequences as described in the API, IR pulse trains can be stopped with the corresponding <StopIR_p[1]...[6]>.

At the lowest level, more specific details of the interface can be controlled and sensed. Using <Get_config_p> will result in a response from the hardware describing the hardware configuration.

<Version_p> will result in the version of specific hardware modules as specified by <Module_poll#> sent out from the software module via <Version\$>.

<State> provides an immediate feedback of the last output action. For example, if one of the relay signals is activated, <State> will be asserted until the next output selection. Connection address values are available through <Module#> and <Connector#>.

For each IR pulse string sent, a unique ID address is created <ID_sent#> and added to the pulse string. When the IR transmission is complete, the corresponding ID is provided through <ID_returned#>.



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Specific API response text strings will appear on <Response\$> according to the table:

<Response\$>	Meaning
state	automatic response from relay or digital in
statechange	unrequested response from digital in
completedir	IR pulse of <ID_return#> sequence has finished
devicechange	power-on indications of hardware changes
unknowncommand	Command error with secondary error in <ID_return#>
serialoverflow	Connection broken locally
version	response to <version_p> at <Module_poll#>

<Response\$> can be connected to a Crestron Serial I/O symbol for further processing. Alternately, <Error#> can be connected to a Crestron Analog Equate symbol to convert to individual digital signals according to the table:

<Error#>	Meaning
0	Normal, no error
1	Unknown command
2	devicechange at power up
3	serial overflow at <Module#>
4	bad response string
5	<module_poll#> not compatible with hardware model
6	<Model#> not implemented
7	<StopIR_p> not compatible with hardware model
8	<Relay> not compatible with hardware model
9	<IR_out\$> not compatible with hardware model

Serial I/O to and from the GC-100 hardware is implemented using one additional Crestron TCP/IP Client module per Serial I/O port. Transmission parameters are set as per the API Specification using the GC-100 web interface configuration pages. Only the error parameter of 'serialoverflow' is provided by the GC-100 software module.