

Table 3-1. Ovation Module Choices (Cont'd)

Module Type	Channel	Electronic Module	Personality Module
Loop Interface (AI: 4 - 20mA remote powered) User defined Digital Input³	4	1C31174G24	1C31177G03
Loop Interface (AI: 4 - 20mA local powered)	4	1C31174G04	1C31177G02
Loop Interface (AI: 4 - 20mA local powered) User defined Digital Input³	4	1C31174G24	1C31177G02
Pulse Accumulator (24/48V 5/12V med speed ext PS)	2	1C31147G01	1C31150G03
Pulse Accumulator (24/48V 5/12V med speed neg com)	2	1C31147G01	1C31150G01
Pulse Accumulator (24/48V 5/12V med speed pos com)	2	1C31147G01	1C31150G02
Pulse Accumulator (5V high speed ext PS)	2	1C31147G02	1C31150G03
Pulse Accumulator (5V high speed neg com)	2	1C31147G02	1C31150G01
Pulse Accumulator (5V high speed pos com)	2	1C31147G02	1C31150G02
Relay Output Module G2R	16	1C31219G01	1C31223G01 or (Base Unit)
Relay Output Module KUEP	12	1C31219G01	1C31222G01 or (Base Unit)
RTD Interface	4	1C31161G01	1C31164G01
RTD Interface (CE Mark certified)	4	1C31161G02	1C31164G02
Seq. of Events (125VDC differential)	16	1C31157G02	1C31110G02
Seq. of Events (125VDC single ended)	16	1C31157G02	1C31110G01
Seq. of Events (24/48VDC differential)	16	1C31157G01	1C31110G02
Seq. of Events (24/48VDC single ended)	16	1C31157G01	1C31110G01
Seq. of Events contact input w/48V auxiliary	16	1C31157G03	1C31110G03
Compact Seq. of Events (125VDC differential)	16	1C31233G03	5X00034G01 or Cavity Insert ²
Compact Seq. of Events (24/48VDC differential)	16	1C31233G02	5X00034G01 or Cavity Insert ²
Compact Seq. of Events (24VDC or 48VDC single ended)	16	1C31233G01	Cavity Insert ²

3-6.2. Personality Module Fuses

Some Personality modules (Pmods) may contain fuses. These fuses are typically 5 x 20 mm fuses, and are conveniently located for easy replacement (see [Figure 3-1](#)).

If a 5x20 mm cartridge fuse needs to be replaced, push the fuse cap in, turn it one-quarter turn counter-clockwise, and the fuse will pop up. Replace the blown fuse with an exact replacement fuse. Fuse sizes are indicated on the Personality module label. Refer to [Table 3-3](#) for descriptions of fuses used by Ovation Personality modules.

If the fuse is a micro fuse, pull the blown fuse out of its holder and plug the replacement fuse into the vacated holder.

Note

In CE Mark Certified systems, the project drawings **MUST** include any fuses and their ratings, if they are replaceable by a qualified technician.

Table 3-3. Personality Module Fuses

Type	Rating	Used On	Part Number
5 x 20 mm cartridge	0.50A; 250V; Fast acting	Digital Input Pmods Sequence of Events 1C31110G01	EX06100
5 x 20 mm cartridge	0.063A; 250V; Fast acting	Analog Input Pmods 1C31116G02 - G03 Loop Interface Pmods 1C31177G02 - G03	EX06102
5 x 20 mm cartridge	0.63A; 250V; Fast acting	Pulse Accum. Pmods 1C31150G01 - G03	EX06071
5 x 20 mm cartridge	1.0A; 250V Fast acting	Relay Base 16 G2R 1C31223G01	EX06104

Section 18. Relay Output Module

18-1. Description

An Ovation Relay Output module consists of an Electronics module, a base assembly, and relays. The Relay Output module provides a means to switch high AC and DC voltages at high currents to field devices. There are two versions of the Relay Output base assembly which contain either 12 or 16 relays within each base. The 12 Relay Output base assembly provides the additional advantage of being able to switch larger DC voltages at high currents.

Each Relay Output base assembly incorporates an integral Relay Output Electronics module to interface between the relays and the Ovation I/O Controller. The Relay Output Electronics module provides configurable communication timeout periods and LEDs to indicate the status of each output.

The Relay Output module is applicable for CE Mark certified systems.

18-2. Module Groups

18-2.1. Electronic Module

There is one Electronics module group for the Relay Output module:

- 1C31219G01 provides an interface between the Ovation Controller and the mechanical relays that are used to switch high AC and DC voltages at high currents. This module plugs into the Relay Output base assembly.

Note

The Relay Output base assembly does not incorporate a Personality module.

18-2.2. Relay Output Base Assemblies

There are two different styles of Relay Output base assemblies:

- 1C31223G01 is configured with 16 Form C (G2R style) relays which switch high AC and DC voltages at high currents. Each relay contains one Form C contact arrangement which is brought to terminal blocks for user connections.

- 1C31222G01 is configured at the project level with either 12 Form C (KUEP style) or 12 Form X (KUEP style) relays which switch high AC and DC voltages at high currents.

In the case of the Form C relay, only one of the contact pairs within the relay is available at the terminal blocks for user connection. The KUEP style relay bases (1C31222G01) have the advantage of being able to switch larger DC voltages at higher currents than the G2R style relay bases (1C31223G01).

Table 18-1. Relay Output Module Subsystem

Description	Channels	Electronic Module	Base Unit ¹
KUEP Relay Panel (Form C)	12	1C31219G01	1C31222G01
KUEP Relay Panel (Form X)	12	1C31219G01	1C31222G01
G2R Relay Panel	16	1C31219G01	1C31223G01

¹ Relay Outputs do not use standard Ovation I/O bases. Use the listed base units for Relay Output applications. Also note that the Relay Output module does not use a Personality module.

All Configurations are CE Mark certified

Relay Contact Ratings must be adhered to when utilizing the Relay Output Module Assemblies. The application must include external current limiting protection for the Relay Output Module Assemblies.

18-2.3. Relay Output Panel Kits

There are four different styles of Relay Output panel kits:

- 5A26457G01 contains a Relay Output Electronics module a relay output base assembly, and 16 Form C relays (G2R style).
- 5A26458G01 contains a Relay Output Electronics module, a relay output base assembly, and 12 Form C relays (KUEP style).
- 5A26458G02 contains a Relay Output Electronics module, a relay output base assembly, and 12 Form X relays (KUEP style).
- 5A26458G03 contains a Relay Output Electronics module, and a relay output base assembly. This is a project specific base assembly in which the project determines the mix of the Form C and Form X relays on a panel. The KUEP Form C relay is 4960A71H16 and the KUEP Form X relay is 4960A71H05.

18-4. Specifications

Electronics Module (1C31219G01) ([Table 18-2](#))

Base Assembly (1C31223G01, G2R Style) ([Table 18-3](#))

Base Assembly (1C31222G01, KUEP Style) ([Table 18-4](#))

Table 18-2. Relay Output Electronics Module Specifications (1C31219G01)

Description	Value
Number of channels	16
Blown fuse detection ¹ Operating voltage range	18V ≤ auxiliary supply voltage ≤ 25.5V
Module power	Main: 1.88 W typical, 2.5 W maximum Auxiliary: 0.3 W typical, 0.35 W maximum
Operating temperature range	0 to 60°C (32°F to 140°F)
Storage temperature range	-40°C to 85°C (-40°F to 185°F)
Humidity (non-condensing)	0 to 95%
¹ You can configure the module to enable/disable the blown fuse detection function.	

Table 18-3. Relay Output Base Assembly Specifications (1C31223G01, G2R Style)

Description	Value
Number of relays	16
Relay Type	G2R electromechanical style with 1 Form C contact style
Relay contact ratings	10 amps @250 VAC, PF=1 10 amps @30 VDC
Maximum propagation time	Operate time: 15 mSec, bounce approximately = 3 mSec Release time: 10 mSec, bounce approximately = 8 mSec
Dielectric isolation: Relay contacts to logic	2300V AC/DC
Relay base power	Auxiliary power: 9.1 W typical, 11.68 W maximum
Auxiliary power supply ¹	25V typical (before output auctioneering diode drop within Ovation auxiliary power supply) 25.5V maximum@60°C
Operating temperature range ²	0 to 60°C (32°F to 140°F)
Storage temperature range	-40 to 70°C (-40°F to 158°F)
Humidity (non-condensing)	35 - 85%
¹ Use of the internal Ovation auxiliary power supply is recommended for relay output modules.	
² See additional application derating information contained in Table 18-5 .	