CAEN ⬣ **Electronic Instrumentation**

3. Operating modes

The Mod. A7030 – AG7030 boards can be controlled, either locally or remotely, through the SYSTEM software interface. For details on SYSTEM operation, please refer to the User's Manual of this product. The following sections contain a description of commands available for the board control and status monitoring.

Output control and monitoring

For each output channel, it is possible, through the system, to access the following parameters:

CHANNEL NAME (settable):	descriptive name for the relevant channel
V0SET (settable):	the first of the two allowed voltage programmable values.
I0SET (settable):	the first of the two allowed current limit programmable values (OVC warning only)
V1SET (settable):	the second of the two allowed voltage programmable values
I1SET (settable):	the second of the two allowed current limit programmable values (OVC warning only)
RUp (settable):	the Ramp-Up parameter value, i.e. the maximum voltage programmable increase rate.
RDWn (settable):	the Ramp-Down parameter value, i.e. the maximum voltage programmable decrease rate.
TRIP (settable):	the TRIP parameter value, i.e. the maximum time an Over Current condition is allowed to last.
SVMAX (settable):	the maximum voltage value programmable for the channel. If the value set as SVMAX is less than the current value of the V0SET/ V1SET parameter, the latter will automatically decrease to the SVMAX value.
VMON (monitor):	monitored voltage value
IMON (monitor):	monitored current value
ImAdj	offset value which is added to IMon to adjust its value to zero
STATUS (monitor):	it displays the channel status.
PW (ON/OFF):	the Power parameter shows the ON/OFF channel status. As this parameter is set ON, the channel is switched on (if the INTERLOCK is not active and if the channel is enabled either locally or remotely) highlighted in green when channel ON; onstate = ON; offstate = OFF
POn (EN/DIS):	Power-On option, which can be enabled or disabled. If this option is enabled, at Power-On or after a Restart each channel is restored in the same condition (defined by the Power parameter) it was before the Power-Off or Reset. If this option is disabled, at Power-On or after a Restart all the channels are off, independently from the condition in which they were before the Power-Off or Reset ; onstate = Enabled; offstate = Disabled
PDwn (Kill/Ramp):	Power-Down option, which can be set as KILL or RAMP. It affects the way the channels react at a Power-Off command caused by a TRIP condition. If the KILL option is selected, the relevant channel will be switched off at the maximum rate available. If the RAMP option is selected, the voltage will drop to zero at a rate determined by the value of the Ramp-Down parameter programmed for that channel; onstate = Ramp; offstate = Kill
TripInt:	2N-bit word (hexadecimal) maximum 16 lines, where N is the number of the board's Internal Trip Bus lines. Bits [0;N-1] allow the channel to sense the trip status from the corresponding lines when set to one; in the same way, bits [N;2N-1] allow the channel to propagate the trip status over the Trip Bus: bit N on line 0 and so on (see SY4527 User's manual).
TripExt:	Must be set in the 0÷255 range (hexadecimal). Bits [0;3] allow the channel to sense the trip status from the corresponding lines when set to one; in the same way, bits [4;7] allow the channel to propagate the trip status over the trip bus: bit 4 on line 0 and so on (see SY4527 User's manual).

If the POWER ON option is enabled, as the module is turned ON, the channel is restored to the same condition it was before the POWER OFF or RESET; if this option is disabled, at POWER ON or after a RESET, the channel is kept OFF independently from its previous condition.

Channel STATUS Flag

The following messages may be returned by the SYSTEM when monitoring the channel STATUS:

RUP	channel ramping up
RDWN	channel ramping down
OVC	channel in OVERCURRENT condition
OVV	channel in OVERVOLTAGE condition
UNV	channel in UNDERVOLTAGE condition
VMAX	channel reached VMAX condition