Documentation for Control IQ

Relating to: **CIQProc.EXE**
Date: **October 1st, 2013**
Program Revision: **4.0**
Subject **Class Properties and Constants**

CIQProc uses a system of object oriented variables throughout the program. This is referred to as a class.object.property (COP).

Class – Defines the type of object that is being referenced. Supported classes are:

AI	Points – Analog Inputs
AO	Points – Analog Outputs
ASIC1	Points – ASIC1 Controllers
DI	Points – Digital Inputs
DO	Points – Digital Outputs
LOGIC	Points – Logic (conversion)
LOOKUP	Points – Lookup
METER	Points – Meters
PID	Points – PIDs
PNT	Points – Generic for all points
REPORT	Points – Memorized Reports
TIMER	Points – Timers
SCHED	Points – Schedules
SYS	System Variables
SUB	Subsystem Variables

Object – This is the 'alias' portion of the COP. It is the alias of the point, or schedule. If the class being used is 'SYS' the object is predefined as 'System'

Property – Is from this list of available properties listed below.

PNT may be used generically for the class of any 'point' with regards to common properties for all points. Hence:

AI.OATemp.Value is equivalent to Pnt.OATemp.Value

However, if you want to retrieve something specific to a point type, then the actual class must be use. For example:

AI.OATemp.HighAlarm is NOT retrievable as Pnt.OATemp.HighAlarm

Constants

All of these = 0

- DayEven
- Disable
- Disabled
- Off
- Open
- Opened
- Even
- False
- Heat
- MonthEven
- YearEven

All of these = 1

- Close
- Closed
- Cool
- DayOdd
- Enable
- Enabled
- MonthOdd
- Odd
- On
- PMS
- True
- YearOdd

All of these are additional key words (can’t be used as alias names)

- Date
- Day
- Int
- Max
- Min
- Month
- Now
- Time
- Year

Display Format

Display Format is used in many Classes. Its is decoded as

- Place Holder
0 – Force a zero if not present
$ - Put the currency sign in the format

######.#	72	is displayed as	72.
	72.1	is displayed as	72.1
	72.12	is displayed as	72.1
	72.17	is displayed as	72.2
	.01	is displayed as	.0
######.0	72	is displayed as	72.0
	72.1	is displayed as	72.1
	72.12	is displayed as	72.1
	72.17	is displayed as	72.2
	.01	is displayed as	.0
#####.#0	.01	is displayed as	.01
	.1	is displayed as	.10
####0.#0	.01	is displayed as	0.01
	.1	is displayed as	0.10
###,###.0	1234.56	is displayed as	1,234.6
$###,###.#0	1234.5	is displayed as	$1,234.50

Available Properties

Class - SYS

AlarmsLast24Hours	- Number of alarms in the past 24 hours
AlarmsLast7Days	- Number of alarms in the past 7 days
AlarmsLast30Days	- Number of alarms in the past 30 days
Alarmstate	- 0= no alarms, 1 = one or more alarms, 3 = all ack
AllowDynamics	- 1/0 if SLA is enforce
CIQGUI_Version	- The currently running GUI version
CIQProc_Version	- The currently running CIQProc Version
CommError	- Normal or Trouble (Set to trouble if ANY point nocom)
CommStatus	- Percentage of points with Comm Error
CPU	- The % of CPU Load (see RAMPCT)
Database	- The database DSN being used
DatabaseName	- The database name being used
Date	- present date MM-DD-YY
DateTime	- present date time MM-DD-YY HH:MM:SS
Dawn	- HHMM Sunrise + DuskDawn Offset
DayDateTime	- present format as 'Friday 02-15-13 14:35'
DayOdd	- a 1 if DOW = 1,3,5,7 else 0
DayOfMonth	- present Day of Month (1-31)
DaysSinceLastBackup	- Number of days since last backup default=999
DOM, DAY	- present Day of Month (1-31)
DOW	- present Day of Week (1-Sunday, 7=Saturday)
DOY,DayOfYear	- present Day of Year (1-365)
Dusk	- HHMM Sunset – DuskDawn Offset
DuskandDawn	- number of minutes before sunrise / after sunset
EnableWatchDog	
ExceptionsOverrideStandard	- 1/0 set in Preferences
Health,ScanTime	- returns CISProc's scan time (in seconds)
HoursSinceSAIntBeacon	- Hours since CIQ-SA Interface checked in
HoursSincePMSBeacon	- Hours since a PMS record was received
HoursSinceVoiceBeacon	- Hours since CIQ Voice checked in
HHSeconds	- present ((Minutes * 60) modulo 1800)
Holiday	- a 1 if this day is a holiday else 0
Hours	- present hour (0-23)
LastBackUpDate	- Last Backup Date (since proc has been running)
Latitude	- The latitude of the site (dusk / dawn)
LimitedOperationLevel	- Bit mapped
LongDate	- present date January 23, 2004
Longitude	- The Longitude of the site (dusk / dawn)
Memory	- Amount of memory being used by CIQProc
MinimumLogTime	- What is the minimum time to log to History (minutes)

Minutes	- present minute (0-59)
Month	- present Month (1-12)
MonthOdd	- a 1 if Month = 1,3,5,7,9,11 else 0
MyIPAddress	- The IP Address of the CIQProc engine
Now	- present date time MM-DD-YY HH:MM:SS
PointsInAlarm	- Number of Points In Alarm or Acknowledged
PointsInAlarmPCT	- Percentage of Points that are in Alarm or Ack
ProcHealth	- returns “Normal” if proc is running ok
ProcIP	- What IP address is it listening on
QOD	- Quote of the day
RAMPCT	- Percentage of Available RAM used (See CPU)
ReInitMinutes	- How often to rescan lost address (in minutes)
ScanRate	- returns CISProc’s scan time (in seconds)
Season	- textual – Season name
Seconds	- present seconds (0-59)
ShortDate	- present date MM-DD-YY
ShortTime	- present time HH:MM
SiteName	- returns the site name from the preferences table
Status	- 0,1,2 as define in StatusText
StatusText	- Textual – ImOK or ImNOTok or ImPaused
Sunrise	- HH:MM of sunrise for the current day
Sunset	- HH:MM of sestet for the current day
Threadxxx.ScanTime	- Then duration of each thread
Time	- present time HH:MM:SS
txtDOW	- DOW as “Sunday, Monday, Tuesday…”
txtMonth	- Month as “January, February, March…”
UpSince	- returns date and time when proc was started
UpTime	- returns number of minutes Proc has been up
UserXX or User(xx)	-User assigned variables in Preferences
Version	- returns the version of CIQproc ‘v2.0.1.3’
WeekOdd	- a 1 if week of the year is 1,3,5,7, etc else 0
WindowState	-normal/minimized or maximize
WOY,WeekOfYear	- present Week of Year (1-52)
Year	- present Year (2007)
YearOdd	- a 1 if the year number is odd else 0

1 = HostedSite

The default property for all system objects is value. Sys.PointsInAlarm is the same as Sys.PointsInAlarm.Value. Sone objects also support a .Name property, as in Sys.Sitename.Name, This include

AlarmState.name - returns “Alarm State:”

CommError.name	- returns “Comm. Status:”
CommHealth.name	- returns “Comm. Status:”
Date.name	- returns “Date:”
DateTime.name	- returns “Date / Time:”
Dawn.name	- returns “Dawn:”
Dusk.name	- returns “Dusk:”
Health.name	- returns “Scan Time:”
LongDate.name	- returns “Date:”
Now.name	- returns “Date / Time:”
PointsInAlarm.name	- returns “Points In Alarm:”
ProcHealth.name	- returns “Status:”
ScanRate.name	- returns “Scan Time:”
Scantime.name	- returns “Scan Time:”
Season.name	- returns “Season:”
ShortDate.name	- returns “Date:”
ShortTime.name	- returns “Time:”
Sitename.name	- returns “Site:”
Status.name	- returns “Status:”
Sunrise.name	- returns “Dawn:”
Sunset.name	- returns “Dusk:”
Time.name	- returns “Time:”
Version.name	- returns “Version:”

All others will return the object name

Available Properties

Class – SUB (Subsystems Data)

Alias	-Alias of the Subsystem Thread
Alarmstate	- Alarmstate of the subsystem
Alarmstep	- As in Points, the alarm step that has processed
LastKnownGood	- Date and Time of the last successful scan of any points
SubsystemType	- Fixed Values of the known subsystems
CommError	- 1 if Now-LastKnowGood > 15 minutes else 0

Available Properties

Class - PNT (used generically for all points)

Address	The address within the subsystem
AlarmState	0 = Not Alarmed, 1= Alarmed, 3 = Acknowledged
Alarmstep	how far through the alarm process
AlarmLevel	Level of the alarm
Alias	The alias of this point (probably not needed)
COV	Number of minutes (decimal) since change in value
Details	Numeric value from points.instrument (see txtDetails)
DisabledPosition	where to set the point when it's off
Groupname	what group (if any) does this point belong to
LastAltered	date time that it was last updated (any change)
LastRead	date time that it was last successfully read
LastCOV	date time of the last change in value
Deviation	difference between Proof Values
LogFrequency	how often does it get logged (minutes)
Name	the name of the point
NameAndtxtValue	returns the name and value of the point
NameAndValue	same as NameAndtxtValue
NTV	same as NameAndtxtValue
NV	same as NameAndtxtValue
NextCOS	Next time a Change of State is to occur
NextLogDateTime	the next date time the point will be logged
Node	processing node of this poing
NumericID	the numeric ID for this point
OutputAlias	The alias name used in alarm_processes table
Override	1 = overridden, 0 = automatic
OverrideUntilDate	when does it expire
PointType	The point type or 'class' (AI, AO, DI…)
Proof	0=Not checked, 1= Proof Good, 2=No Proof
Reason	numeric reason for the point's state
RecNum	Record Number internal to Proc
Reliability	% of communications reliability (0-1)
RunHours	Cumulative Run hours (DI, DO, Sched, Logic)
SetPoint	depending on point type, the setpoint to achieve
Subsystem	Alias name of the subsystem
SubsystemType	What hardware is being used
txtDetails	Text value from points.instrument (see Details)
txtReason	textual reason for the point's state
txtValue	textual value of the point (value @ format with eng units)
txtReliability	textual mode (0-100%)
Value	the raw value of the point

OffDuration	If OFF, how long has it been off (minutes) else 0
OffLatch	If OFF, how long has it been off (minutes) else 999
Off15	else 16
OffFor	in conversion + 1
OnDuration	If ON, how long has it been on (minutes) else 0
OnLatch	If ON, how ling has it been on (minutes) else 999
Commstatus	0 – unknown (Gray) 1 – Good Read (Green) 2 – Missed One (Yellow) 3 – No Comm (Red)
PMSState	State of PMS for this point 1=occ, 0=unocc

Available Properties

Class – AI

Deadband	Hysterysus of the value around alarm limits
DisplayFormat	how to display and apply to txtValue
EngUnits	Engineering Units used in txtValue
HighAlarm	Alarm level on the high end
HighThreshold	Maximum value of the point
LowAlarm	Alarm level on the low end
LowThreshold	Minimum value of the point
MaxScale	Span
MinScale	Zero
ScaleAdjust	Calibration adjustment
Smoothing	the number of seconds to “smooth” the readings

Class – AO

DisplayFormat	how to display and apply to txtValue
EngUnits	Engineering Units used in txtValue
MaxScale	Span
MinScale	Zero
MaxSetpoint	What is the maximum value that can be set
MinSetpoint	What is the minimum value that can be set
IncrementSetpoint	What is the incremental change in the setpoint

Class – ASIC1

DeadbandCool	Cooling Hysterysus
DeadbandHeat	Heating Hysterysus
Deadband	Hysterysus of the value around alarm limits
DemandShedLevel	COP to look at for demand level
DisplayFormat	how to display and apply to txtValue
EngUnits	Engineering Units used in txtValue
LightSched	COP to look at for lighting schedule
OccSched	COP to look at for occupied schedule
OvertimeAllowed	in minutes
WarmUpSched	COP to look at for warm-up schedule
OperatingMode	read from the controllers
UnOccHighSetpoint	Unoccupied cooling setpoint
UnOccLowSetpoint	Unoccupied heating setpoint
UserAdjust	how much change can the user make to setpoing (+/-)

Class – DI

ClosedLabel	What's it say when it is on or true
NormallyClosed	1 if True 0 if False
OpenLabel	What's it say when it is open or off

Class – DO

CycleEventTime	The next time the duty cycle will process
ClosedLabel	What's it say when it is on or true
NormallyClosed	1 if True 0 if False
OpenLabel	What's it say when it is open or off

See also OnDuration, OffDuration, OnLimit, OffLimit

Class – Logic

AlarmOption	As defined in AI / DI
AnalogOrDigital	0=Analog, 1 = Digital, 2 = Textual
CalculationTimer	How often to process the calculation (seconds)
Deadband	Deadband is used for alarming only
DisplayFormat	how to display and apply to txtValue
EngUnits	Engineering Units used in txtValue
Equation	
HighAlarm	
LowAlarm	
MaxScale	
MinScale	
Vxx (1-20)	

Class – MVI / MVO

None defined

Class – Meter

ActiveTarget	What target is the meter using now
Consumption	The consumption of the meter in this period
Demand	The demand of the meter in this period
FloatDown	The percentage to float the target down
FloatUp	The percentage to float the target up
InDemandDateTime	When did it go over the target
LastEOD	Date / Time of the last end of demand period
NextEOD	
NextTargetTime	Date / Time to reset the target
RateLastMinute	Rate of usage during the last minute
ShedLevel	Present Shedding level of the meter

Class – PID

CalculationTime	Time in seconds between recalculating
D	From database
DirectActing	Output Rise on Error Rise (0/1)
FeedBack	Result of the PID
I	From database
MaxChange	Maximum Change per evaluation
MaxRange	High Clamp within MinScale / MaxScale
MaxScale	Span
MinRange	Low Clamp within MinScale / Max Scale
MinScale	Zero
P	From database
PIDError	PID Calc – present error (feedback vs setpoint)
PIDIntegralSum	PID Calc – Integral Sum (cumulative error)
StartAt	Starting value
StartHold	How long to stay at StartAt when activate (minutes)

Class – Sched

DelayOn	IF On how many minutes since Last On Else how many minutes until next On
DelayOff	IF Off how many minutes since Last Off Else how many minutes until next Off
LastOff	Minutes since last off time
LastOn	Minutes since last on time
NextOff	Minutes until next SCHEDULED off time
NextOn	Minutes until next SCHEDULED on time

Class – Timer

None defined yet