Programming Documentation

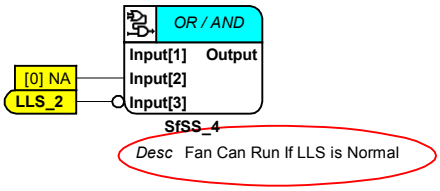
Standard Engineering Practices

Document: 8.5
Date May 15, 2002
Supersedes: none

Additional Programming Documentation

Programming can be complicated and confusing. Additional documentation is sometimes needed to inform the technician the intention of a certain section of a program. This can be done in a couple of ways.

1.) Using the description field of an object



2.) Using a notation for more detailed information

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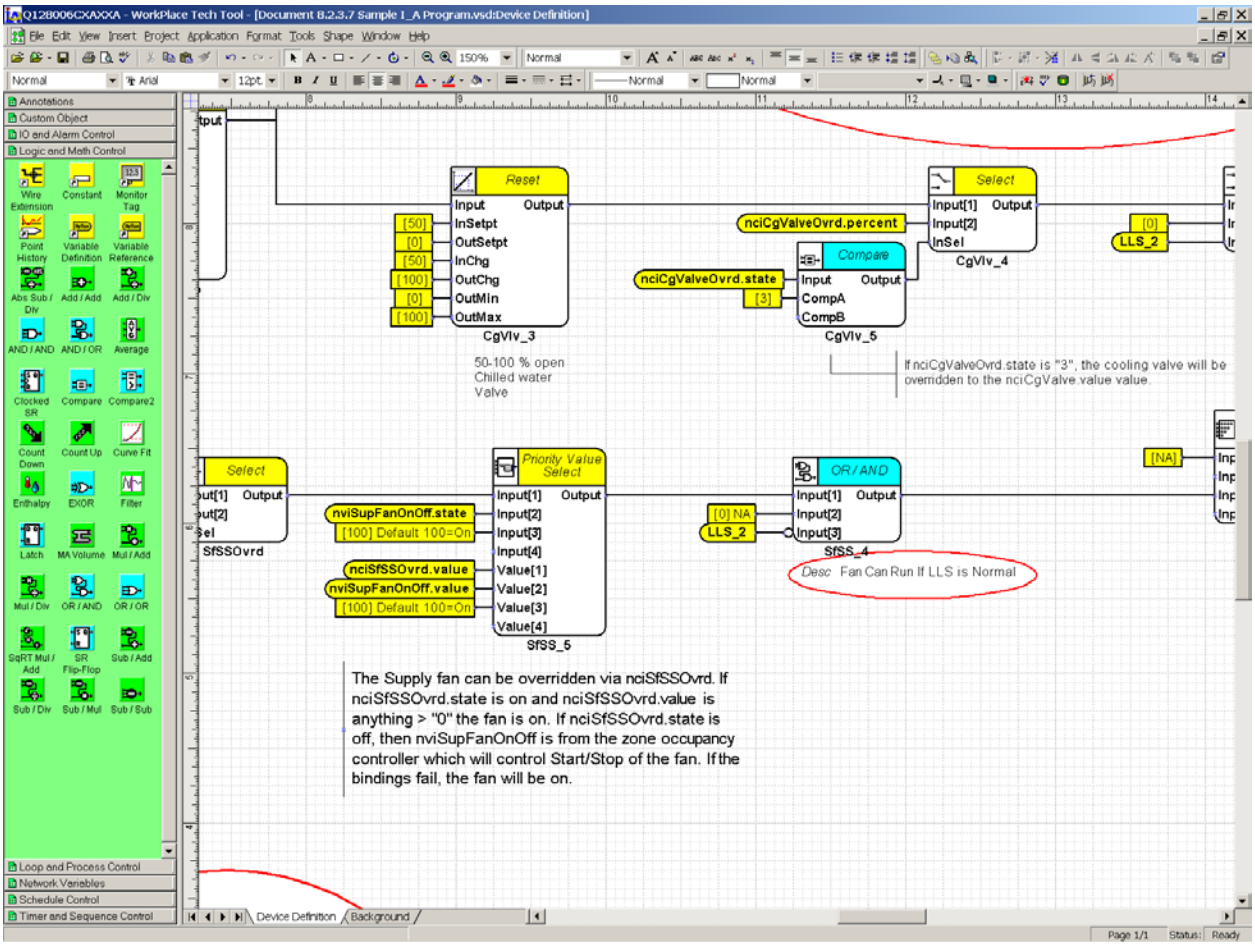

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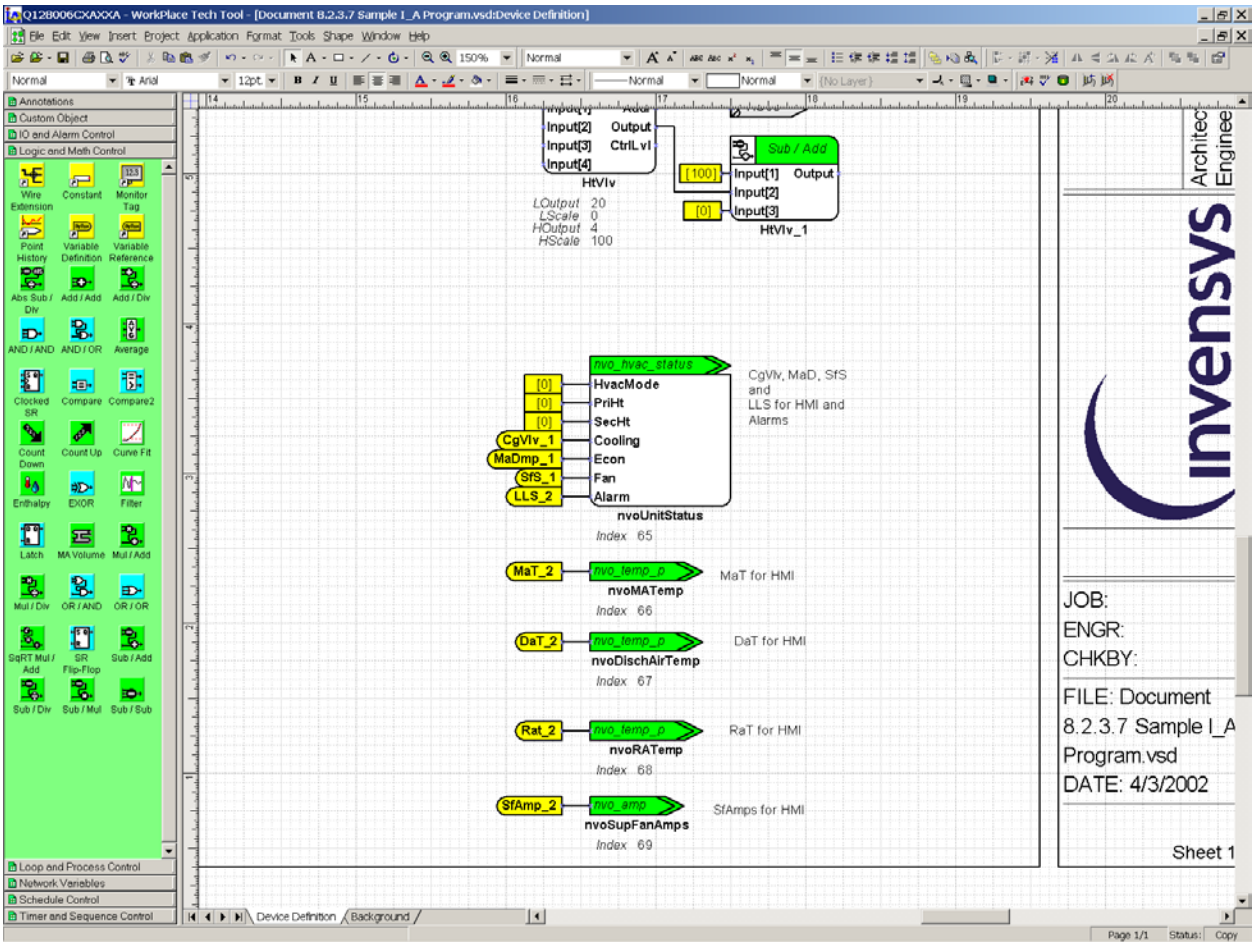
3.) Documenting items like setpoints, bindings, overrides, or other uses.



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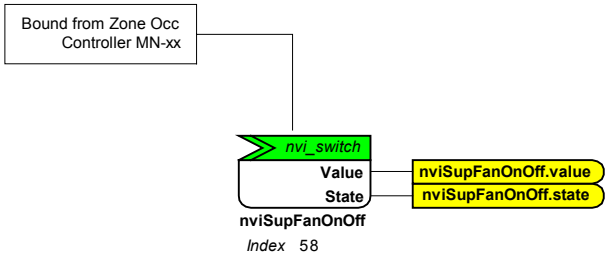

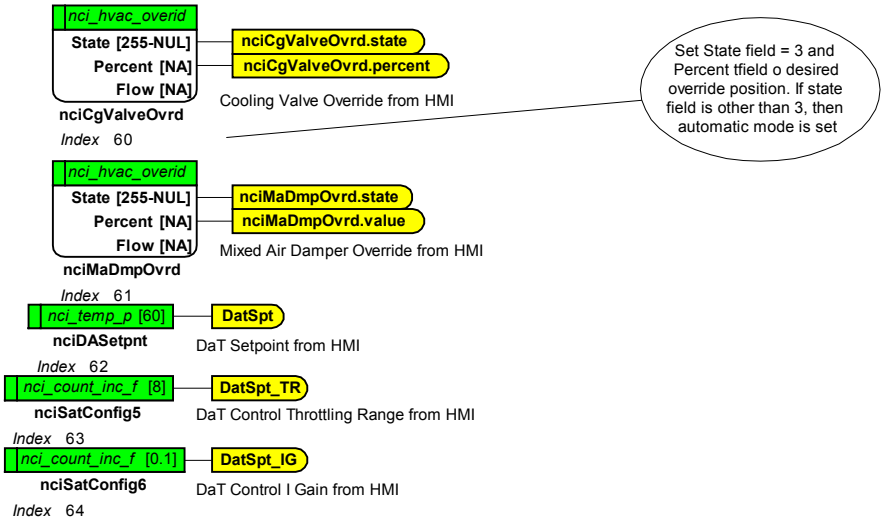

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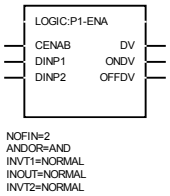
What Attributes are shown on Page

With the various applications within the Invensys organization for writing a control program (AutoBlock, WPTech, ProBlock, etc.), we need to standardize on the information shown on the drawing page. If we don't show enough information, it becomes difficult to follow and understand. Too much, and the drawing becomes cluttered and difficult to read. Each application has its own way of adjusting the way attributes are shown. You should be knowledgeable in how to modify this information for the particular application you use and make the necessary adjustments per the guidelines below.

GCM/LCM/LNC/SIM



Example of an Eclypse ProBlock GCM block with shown attributes.

Attributes to show

Block Type	Attributes
AI	ADDRESS, HIVAL, LOVAL, INTYPE, OFCAL, OUTMIN, OUTMAX
ALARM	ALDLY, ENDLY, MESSG, PRINT
AO	ADDRESS, HIVAL, LOVAL, OUTHV, OUTLV, OUTMIN, OUTMX
APT	UNITS
CALEN	OFDAT, OFTIM, ONDAT, ONTIM
COS	ALDLY, ENDLY, MESSG, PRINT
DAILY	OFTIM, ONTIM
DCC	MODE
DEGDA	NOCOL, UNITS
DELAY	DELAY, MODE
DI	ADDRS, UNITS
DO	ACT, ADDRS, MNOFF, MNON
DPT	UNITS
EDL	DELAY, LOADS, MODE, MXSP1,MXSP2, MXSP3, MXSP4, PWCON, ROTIM
EMS	CMODE, DMODE, MMODE, NAME, PRINT
ENTHL	HSSEL, IUNIT, UNITS

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Block Type	Attributes
FLO2	ADDR, AO1FN, AXTIM, CLINT, CLTR, CTYPE, DENAB, DO1FN, DO2FN, DO3FN, DO4FN, DTCAL, DTPEN, FANHY, FLCAL, FUNIT, GROUP, HTINT, HTTR, LCLSP, LFNSP, LMNFL, LMXFL, LSPOF, LUCSP, LUHSP, MNCSP, MNHSP, MXCSP, MXHSP, OTYPE, PTYPE, RHMNF, RHSEQ, ROTAT, RSPEN, SPCAL, UFLMN, WMCHG, ZNCAL
FLOW	PRMN, PRMX, SCALE, SPRMN, SPRMX, UNITS
HILO	INMN, INMX, NOFIN, UNITS
HOLI	ALL EXCEPT UPTIM
LABEL	ALL
LIM	ALL EXCEPT EXENA AND UPTIM
LIMIT	HYST, INMN, INMX
LOGIC	ALL EXCEPT UPTIM
LOOP	ALL EXCEPT UPTIM
MATH	FILTR, FUNCT, OUTMN, OUTMX, UNITS
MN	ALL EXCEPT UPTIM
MNFLO	ALL EXCEPT UPTIM
MOMEN	ADDRS, SSSEL
MTR	ALL EXCEPT UPTIM
NIM	ALL
NSCHD	ALL EXCEPT UPTIM
OSS	ALL EXCEPT UPTIM
PEM1	ALL EXCEPT EXENA AND UPTIM
POLL	ALL EXCEPT UPTIM
PULSE	ALL EXCEPT UPTIM
PWM	DEADB, TIME
RAMP	ALL EXCEPT UPTIM
RESET	ALL EXCEPT UPTIM
RGCM	ALL EXCEPT UPTIM
RLCM	ALL EXCEPT UPTIM
RNET	ALL EXCEPT UPTIM
SEQ	ALL EXCEPT UPTIM
SGCM	ALL EXCEPT UPTIM
SGRP2	ALL EXCEPT UPTIM
SIM	ALL EXCEPT UPTIM AND EXENA
SLCM	ALL EXCEPT UPTIM
SLECT	ALL EXCEPT UPTIM
SNET	ALL EXCEPT UPTIM
SYS	DATA
TOTAL	ALL EXCEPT UPTIM
TREND	ALL EXCEPT UPTIM

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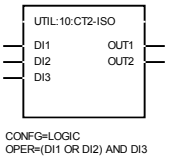
Block Type	Attributes
TSTAT	ALL EXCEPT UPTIM
VVBOX	ALL EXCEPT UPTIM
WEEK	ALL EXCEPT UPTIM
Z2HSC	ALL EXCEPT UPTIM (Optional)
Z2SCH	ALL EXCEPT UPTIM (Optional)
ZONE2	ALL EXCEPT UPTIM AND EXENA

MZ2/PEM



Example of an Eclypse ProBlock MZ2 block with shown attributes.

MZ2

Block Type	Attributes
AO	NAME, INMN, INMX, OUTMN, OUTMX
DO	ACTON, NAME
EMS	NAME
HOLI	ALL
LOOP	ALL
OSS	ALL
RESET	ALL
RGRP	ALL
SCHED	ALL
SEQ	ALL
UI	ALL EXCEPT STIME AND SUNIT
UTIL	ALL
WINDO	ALL

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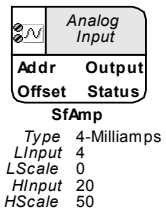
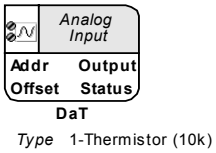
PEM1

Block Type	Attributes
AO	ALL EXCEPT STIME AND SUNIT
AS	ALL EXCEPT STIME AND SUNIT
AT	ALL EXCEPT STIME AND SUNIT
AV	ALL EXCEPT STIME AND SUNIT
DI	CONFIG, NAME
DO	CONFIG, NAME
EMS	NONE
LOOP	CONFIG, ECCL, UNITS
RESET	ALL
RGRP	NONE
SEQ	ACTON, CONFIG
UTIL	ALL
WINDO	(NOTHING AVAILABLE TO SET)

I/A (MNLxxxxx)





Examples of a WorkPlace Tech block (object) with shown attributes.

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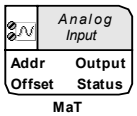
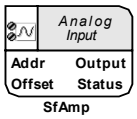
The following list details what attributes are shown for WPTech objects (blocks).

Analog Input



MaT

Type 2-Balco

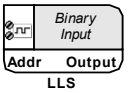


SfAmp

Type 4-Milliamps
LInput 4
LScale 0
HInput 20
HScale 50

- Name
- Type (Balco, Thermistor, Platinum, etc.)
- Scaling information for 4-20mA and 0-5vDC Inputs

Binary Input



LLS

Type 17-Reverse

- Name
- Action

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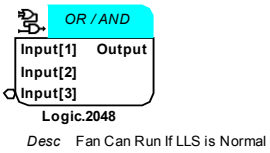
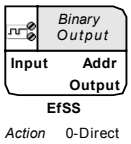
Other Blocks (Objects)



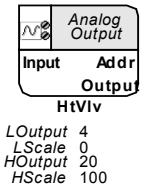
- Name
- Description (If needed to document control)

Binary Output



- Name
- Action

Analog Output



- Name
- Scaling information

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