

Controller-1

```
Block Definition:
Name: CONTROLLER_1
Type: CALCA
DESCRP
PERIOD 1
PHASE 0
LOOPID
RI01 : WSHING_TIME.PNT
RI02 : SWITCH_TIME.PNT
RI03 0.0
RI04 0.0
RI05 0.0
RI06 0.0
RI07 0.0
RI08 0.0
BI01 : CONTROLLER_2.B001
BI02 : CONTROLLER_2.B002
BI03 : CONTROLLER_2.B003
BI04 : CONTROLLER_2.B004
BI05 : CONTROLLER_2.B005
BI06 : CONTROLLER_2.B006
BI07 4P100:PCV4114A.COUT
```

```
BI08 : ZVF4101A_1.CIN
BI09 : ZVF4101A_2.CIN
BI10 : ZVF4101A_3.CIN
BI11 4P100:PDIA4114A.HAI
BI12 : RESET.CIN
```

```
M23 0.0
M24 0.0
STEP01 IN RI01
STEP02 STM M01
STEP03 OUT R001
STEP04 IN RI02
STEP05 STM M05
STEP06 OUT R002
STEP07
STEP08 IN BI11
STEP09 AND BI12
STEP10 AND ~BI06
STEP11 OUT B04
STEP12
STEP13
STEP14
STEP15
STEP16
STEP17
```

```
STEP18  
STEP19 IN BI07  
STEP20 OSP M01  
STEP21 OUT M24  
STEP22 AND ~B002  
STEP23 AND ~B003  
STEP24 AND ~BI01  
STEP25 AND ~BI02  
STEP26 AND ~BI03  
STEP27 AND ~BI04  
STEP28 AND ~BI05  
STEP29 AND ~BI06  
STEP30 AND ~M17  
STEP31 AND ~M18  
STEP32 OUT B001  
STEP33  
STEP34 IN ~B001  
STEP35 OSP M05  
STEP36 OUT M17
```

```
STEP37  
STEP38 AND ~B001 ~M17  
STEP39 OSP M01  
STEP40 OUT B002  
STEP41  
STEP42 AND ~B001 ~B002  
STEP43 OSP M05  
STEP44 OUT M18  
STEP45  
STEP46 AND ~B001 ~B002  
STEP47 AND ~M18  
STEP48 OSP M01  
STEP49 OUT B003  
STEP50
```

Controller-2

```
Block Definition:
Name: CONTROLLER_2
Type: CALCA
DESCRP
PERIOD 1
PHASE 0
LOOPID
RI01 : CONTROLLER_1.R001
RI02 : CONTROLLER_1.R002
RI03 0.0
RI04 0.0
RI05 0.0
RI06 0.0
RI07 0.0
RI08 0.0
BI01 : CONTROLLER_1.B001
BI02 : CONTROLLER_1.B002
BI03 : CONTROLLER_1.B003
BI04 : ZVF4101A_4.CIN
BI05 : ZVF4101A_5.CIN
BI06 : ZVF4101A_6.CIN
BI07 0

M23 0.0
M24 0.0
STEP01 IN RI01
STEP02 STM M01
STEP03
STEP04 IN RI02
STEP05 STM M05
STEP06
STEP07 AND ~BI01 ~BI02
STEP08 AND ~BI03
STEP09 OSP M05
STEP10 OUT M19
STEP11 OUT B001
STEP12 AND ~BI01 ~BI02
STEP13 AND ~BI03
STEP14 AND ~M19
STEP15 OSP M01
STEP16 OUT B004
STEP17

STEP18 AND ~BI01 ~BI02
STEP19 AND ~BI03
STEP20 AND ~B004
STEP21 OSP M05
STEP22 OUT M20
STEP23 OUT B002
STEP24 AND ~BI01 ~BI02
STEP25 AND ~BI03
STEP26 AND ~B004
STEP27 AND ~M20
STEP28 OSP M01
STEP29 OUT B005
STEP30
STEP31 AND ~BI01 ~BI02
STEP32 AND ~BI03
STEP33 AND ~B004
STEP34 AND ~B005
STEP35 OSP M05
STEP36 OUT M21

STEP37 OUT B003
STEP38 AND ~BI01 ~BI02
STEP39 AND ~BI03
STEP40 AND ~B004
STEP41 AND ~B005
STEP42 AND ~M21
STEP43 OSP M01
STEP44 OUT B006
STEP45
STEP46 END
STEP47
STEP48
STEP49
STEP50
```

XVF4101A_1 Output

```
Block Definition:
Name: XVF4101A_1
Type: COUT
DESCRP
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
IN :CONTROLLER_1.B001
PROPT 0
EROPT 0
PLSOPT 0
WIDTH 0.0
INVCO 0
MA :AM.CIN
INITMA 1
MANFS 0
INHOPT 0
INHIB 0
BAO 0
```

XVF4101A_2 Output

```
Block Definition:
Name: XVF4101A_2
Type: COUT
DESCRP
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
IN :CONTROLLER_1.B002
PROPT 0
EROPT 0
PLSOPT 0
WIDTH 0.0
INVCO 0
MA :AM.CIN
INITMA 1
MANFS 0
INHOPT 0
INHIB 0
BAO 0
```

XVF4101A_3 Output

```
Block Definition:
Name: XVF4101A_3
Type: COUT
DESCRP 
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
IN :CONTROLLER_1.8003
PROPT 0
EROPT 0
PLSOPT 0
WIDTH 0.0
INVCO 0
MA :AM.CIN
INITMA 1
MANFS 0
INHOPT 0
INHIB 0
BAO 0
```

XVF4101A_4 Output

```
Block Definition:
Name: XVF4101A_4
Type: COUT
DESCRP 
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
IN :CONTROLLER_2.8004
PROPT 0
EROPT 0
PLSOPT 0
WIDTH 0.0
INVCO 0
MA :AM.CIN
INITMA 1
MANFS 0
INHOPT 0
INHIB 0
BAO 0
```

XVF4101A_5 Output

```
Block Definition:
Name: XVF4101A_5
Type: COUT
DESCRP
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
IN :CONTROLLER_2.B005
PROPT 0
EROPT 0
PLSOPT 0
WIDTH 0.0
INVCO 0
MA :AM.CIN
INITMA 1
MANFS 0
INHOPT 0
INHIB 0
BAO 0
```

XVF4101A_6 Output

```
Block Definition:
Name: XVF4101A_6
Type: COUT
DESCRP
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
IN :CONTROLLER_2.B006
PROPT 0
EROPT 0
PLSOPT 0
WIDTH 0.0
INVCO 0
MA :AM.CIN
INITMA 1
MANFS 0
INHOPT 0
INHIB 0
BAO 0
```

Element -1 washing time block

```
Block Definition:
Name:  TIMER_1
Type:  ACCUM
DESCRP
PERIOD 1
PHASE 0
LOOPID
MEAS   :XVF4101A_1.COUT
HSC1I 1.0
LSC1I 0.0
DELT1I 1.0
EI1    SECOND
PROPT 0
MTRFAC 0.5
SET    0
PRESET 0.0
CLEAR  :RESET_TIMER.B002
HOLD   0
HSC01 10000000000
LSC01 0.0
DELTO1 1.0
EO1    SECOND

INITCL 1
MA      1
INITMA 1
CEOPT  1
PCNTOP 0
INHOPT 0
INHIB  0
INHALM 0x0
OUTNM
HAOPT  0
HABLM  100.0
HABTXT
ABSPRI 5
ABSGRP 1
HHAOPT 0
HHALM  100.0
HHATXT
HHAPRI 5
HHAGRP 1
```

Element -2 washing time block

```
Block Definition:
Name:  TIMER_2
Type:  ACCUM
DESCRP
PERIOD 1
PHASE  0
LOOPID 
MEAS   :XVF4101A_2.COUT
HSC1I  1.0
LSC1I  0.0
DEL1I  1.0
EI1    SECOND
PROPT  0
MTRFAC 0.5
SET     0
PRESET 0.0
CLEAR  :RESET_TIMER.B002
HOLD    0
HSC0I  10000000000
LSC0I  0.0
DEL0I  1.0
E01    SECOND

INITCL 1
MA      1
INITMA 1
CEOPT  
PCNTOP 0
INHOPT 0
INHIB   0
INHALM 0x0
OUTNM
HAOPT  0
HABLIM 100.0
HABTXT
ABSPRI 5
ABSGRP 1
HHAOPT 0
HHALIM 100.0
HHATXT
HHAPRI 5
HHAGRP 1
```


Element -3 washing time block

```
Block Definition:
Name:   TIMER_3
Type:   ACCUM
DESCRP
PERIOD 1
PHASE  0
LOOPID  
MEAS    :XVF4101A_3.COUT
HSCI1   1.0
LSCI1   0.0
DELTI1  1.0
EI1     %
PROPT   0
MTRFAC  0.5
SET     0
PRESET  0.0
CLEAR   :RESET_TIMER.8002
HOLD    0
HSC01   10000000000
LSC01   0.0
DELTO1  1.0
E01     SECOND
INITCL  1
MA      1
INITMA  1
CEOPT   
PCNTOP  0
INHOPT  0
INHIB   0
INHALM  0x0
OUTNM
HAOPT   0
HABLIM  100.0
HABTXT
ABSPRI  5
ABSGRP  1
HHAOPT  0
HHALIM  100.0
HHATXT
HHAPRI  5
HHAGRP  1
```

Element -4 washing time block

```
Block Definition:
Name:  TIMER_4
Type:  ACCUM
DESCRP
PERIOD 1
PHASE 0
LOOPID
MEAS   :XVF4101A_4.COUT
HSCI1  1.0
LSCI1  0.0
DELTI1 1.0
EI1    SECOND
PROPT  0
MTRFAC 0.5
SET     0
PRESET 0.0
CLEAR  :RESET_TIMER.B002
HOLD    0
HSC01  10000000000
LSC01  0.0
DELTO1 1.0
EO1    SECOND
INITCL
MA     1
INITMA 1
CEOPT  1
PCNTOP 0
INHOPT 0
INHIB  0
INHALM 0x0
OUTNM
HAOPT  0
HABLIM 100.0
HABTXT
ABSPRI 5
ABSGRP 1
HHAOPT 0
HHALIM 100.0
HHATXT
HHAPRI 5
HHAGRP 1
```

Element -5 washing time block

```
Block Definition:
Name:  TIMER_5
Type:  ACCUM
DESCRP
PERIOD 1
PHASE 0
LOOPID
MEAS   :XVF4101A_5.COUT
HSCI1  1.0
LSCI1  0.0
DELTI1 1.0
EI1    %
PROPT  0
MTRFAC 0.5
SET     0
PRESET 0.0
CLEAR  :RESET_TIMER.B002
HOLD    0
HSC01  10000000000
LSC01  0.0
DELTO1 1.0
EO1    SECOND
INITCL
MA     1
INITMA 1
CEOPT  1
PCNTOP 0
INHOPT 0
INHIB  0
INHALM 0x0
OUTNM
HAOPT  0
HABLIM 100.0
HABTXT
ABSPRI 5
ABSGRP 1
HHAOPT 0
HHALIM 100.0
HHATXT
HHAPRI 5
HHAGRP 1
```

Element -6 washing time block

```
Block Definition:
Name:  TIMER_6
Type:  ACCUM
DESCRP
PERIOD 1
PHASE 0
LOOPID
MEAS   :XVF4101A_6.COUT
HSCI1  1.0
LSCI1  0.0
DELTI1 1.0
EII    %
PROPT  0
MTRFAC 0.5
SET    0
PRESET 0.0
CLEAR  :RESET_TIMER.B002
HOLD   0
HSC01  10000000000
LSC01  0.0
DELTO1 1.0
EQ1    SECOND
INITCL
MA     1
INITMA 1
CEOPT  1
PCNTOP 0
INHOPT 0
INHIB  0
INHALM 0x0
OUTNM
HAOPT  0
HABLIM 100.0
HABTXT
ABSPRI 5
ABSGRP 1
HHAOPT 0
HHALIM 100.0
HHATXT
HHAPRI 5
HHAGRP 1
```

Total washing time block

```
Block Definition:
Name: W_TIME
Type: CALCA
DESCRP TOTAL WASHING TIME
PERIOD 1
PHASE 0
LOOPID
RI01 :TIMER_1.OUT
RI02 :TIMER_2.OUT
RI03 :TIMER_3.OUT
RI04 :TIMER_4.OUT
RI05 :TIMER_5.OUT
RI06 :TIMER_6.OUT
RI07 0.0
RI08 0.0
BI01 0
BI02 0
BI03 0
BI04 0
BI05 0
BI06 0
BI07 0
M23 0.0
M24 0.0
STEP01 IN RI01
STEP02 ADD RI02
STEP03 STM M01
STEP04 ADD RI03
STEP05 STM M01
STEP06 ADD RI04
STEP07 STM M01
STEP08 ADD RI05
STEP09 STM M01
STEP10 ADD RI06
STEP11 STM M01
STEP12 OUT R001
STEP13
STEP14
STEP15
STEP16
STEP17
```

Rest timers block

```
Block Definition:
Name:   RESET_TIMER
Type:   CALCA
DESCRP
PERIOD  1
PHASE   0
LOOPID
RI01    4P100:PDIA4114A.PNT
RI02    2.0
RI03    0.0
RI04    0.0
RI05    0.0
RI06    0.0
RI07    0.0
RI08    0.0
BI01    :CONTROLLER_1.B001
BI02    :CONTROLLER_1.B002
BI03    :CONTROLLER_1.B003
BI04    :CONTROLLER_2.B004
BI05    :CONTROLLER_2.B005
BI06    :CONTROLLER_2.B006
BI07    :AM.CIN
BI08    :XVF4101A_1.COUT
BI09    :XVF4101A_2.COUT
BI10    :XVF4101A_3.COUT
BI11    :XVF4101A_4.COUT
BI12    :XVF4101A_5.COUT
BI13    :XVF4101A_6.COUT
BI14    :RESET.CIN
BI15    0
BI16    0
II01    0
II02    0
LI01    0
LI02    0
MA      1
INITMA  1
TIMINI  0
M01     0.0
M02     0.0
M03     0.0
M23     0.0
M24     0.0
STEP01  IN BI01
STEP02  OSP 10
STEP03  OUT M01
STEP04  IN BI02
STEP05  OSP 10
STEP06  OUT M02
STEP07  IN BI03
STEP08  OSP 10
STEP09  OUT M03
STEP10  IN BI04
STEP11  OSP 10
STEP12  OUT M04
STEP13  IN BI05
STEP14  OSP 10
STEP15  OUT M05
STEP16  IN BI06
STEP17  OSP 10
```

```
STEP18 OUT M06
STEP19 IN ~M01
STEP20 AND ~M02
STEP21 AND ~M03
STEP22 AND ~M04
STEP23 AND ~M05
STEP24 AND ~M06
STEP25
STEP26 OUT B001
STEP27
STEP28
STEP29 IN BI06
STEP30 OSP 09
STEP31 OUT M17
STEP32 IN ~M17
STEP33 OSP 3
STEP34 OUT M18
STEP35 OR ~BI07
STEP36 OR ~BI14
STEP37 OUT B002
STEP38
STEP39
STEP40
STEP41 IN R001
STEP42
STEP43
STEP44
STEP45
STEP46
STEP47
STEP48
STEP49
STEP50 ENO
```

Washing time setting block

```
Block Definition:
Name: WSHING_TIME
Type: AIN
DESCRP
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
SCI 0
HSC01 10.0
LSC01 0.0
DELTO1 1.0
EO1 %
OSV 2.0
EXTBLK 0
MA 1
INITMA 1
BADOPT 3
LASTGV 1
INHOPT 0
```

Dwell time setting block

```
Block Definition:
Name: SWITCH_TIME
Type: AIN
DESCRP
PERIOD 1
PHASE 0
LOOPID
IOMOPT 0
IOM_ID
PNT_NO 1
SCI 0
HSC01 3.0
LSC01 0.0
DELTO1 1.0
EO1 %
OSV 2.0
EXTBLK 0
MA 1
INITMA 1
BADOPT 3
LASTGV 1
INHOPT 0
```


CALCA – Block Parameters

Table 15-2. CALCA Block Parameters

Name	Description	Type	Accessibility	Default	Units/Range
Configurable Parameters					
INPUTS					
NAME	block name	string	no-con/no-set	blank	1 to 12 chars
TYPE	block type	integer	no-con/no-set	75	CALCA
DESCRP	descriptor	string	no-con/no-set	blank	1 to 32 chars
PERIOD	block sample time	short	no-con/no-set	1	0 to 10

Table 15-2. CALCA Block Parameters (Continued)

Name	Description	Type	Accessiblity	Default	Units/Range
PHASE	block execute phase	integer	no-con/no-set	0	---
LOOPID	loop identifier	string	no-con/set	blank	1 to 32 chars
RI01 to RI08	real input 1 to 8	real	con/set	0.0	---
BI01-BI16	boolean input 1 to 16	boolean	con/set	0	0 to 1
II01 to II02	integer input 1 to 2	integer	con/set	0	---
LI01 to LI02	long int input 1 to 2	long	con/set	0	---
MA	manual/auto	boolean	con/set	0	0 to 1
INITMA	initialize MA	short	no-con/no-set	1	0 to 2
TIMINI	timer initialize option	short_int	no-con/set	0	0 to 3
M01 to M24	memory 1 to 24	real	no-con/no-set	0.0	Any real value
STEP01 to STEP50	program steps 1 to 50	char[16]	no-con/no-set	blank	1 to 8 chars
Non-Configurable Parameters					
OUTPUTS					
BLKSTA	block status	pack_l	con/no-set	0	bit map
BO01 to BO08	boolean output 1 to 8	boolean	con/no-set	0	0 to 1
IO01 to IO06	integer output 1 to 6	integer	con/no-set	0	---
LO01 to LO02	long int output 1 to 2	long	con/no-set	0	---
PERROR	program error	integer	con/no-set	0	---
RO01 to RO04	real output 1 to 4	real	con/no-set	0.0	---
STERR	step error number	integer	con/no-set	0	---
DATA STORES					
ACHNGE	alternate change	integer	con/no-set	0	-32768 to 32767
DEFINE	no config errors	boolean	no-con/no-set	1	0 to 1
ERCODE	configuration error	string	no-con/no-set	blank	1 to 43 chars
LOCKID	lock identifier	string	no-con/no-set	blank	8 to 13 chars
LOCKRQ	lock request	boolean	no-con/set	0	0 to 1
OWNER	owner name	string	no-con/set	blank	1 to 32 chars

AIN – Analog Input Block Parameters

2.4 Parameters

Table 2-1. AIN Block Parameters

Name	Description	Type	Accessibility	Default	Units/Range
Configurable Parameters					
INPUTS					
NAME	block name	string	no-con/no-set	blank	1 to 12 chars
TYPE	block type	integer	no-con/no-set	30	AIN
DESCRP	descriptor	string	no-con/no-set	blank	1 to 32 chars
PERIOD	block sample time	short	no-con/no-set	1	0 to 13
PHASE	block execute phase	integer	no-con/no-set	0	—
LOOPID	loop identifier	string	no-con/no-set	blank	1 to 32 chars
IOMOPT	FBM input option	short	no-con/no-set	1	0 to 2
IOM_ID	FBM identifier	string	no-con/no-set	blank	—
PNT_NO	FBM point number	string	no-con/no-set	1	1 to 32
SCI	signal condition index	short	no-con/no-set	0	0 to 44
HSCO1	high scale, output 1	real	no-con/no-set	100.0	specifiable
LSCO1	low scale, output 1	real	no-con/no-set	0.0	specifiable
DELTO1	change delta, output 1	real	no-con/no-set	1.0	percent
EO1	eng units, output 1	string	no-con/no-set	%	RO1
OSV	output span variance	real	no-con/no-set	2.0	[0..25] percent
EXTBLK	extender block	long	con/set	0	—
MA	manual/auto	Boolean	con/set	0	0 to 1
INITMA	initialize MA	short	no-con/no-set	1	0 to 2
BADOPT	BAD/Out-of-range option	short	no-con/no-set	3	0 to 3
LASTGV	last good value	Boolean	no-con/no-set	1	0 to 1
INHOPT	inhibit option	short	no-con/no-set	0	0 to 3
INHIB	alarm inhibit	Boolean	con/set	0	0 to 1
INHALM	inhibit alarm	pack-b	con/set	0	0 to FFFFFFFF
MANALM	manual alarm option	short	no-con/no-set	0	0 to 4
MTRF	meter factor	real	no-con/set	1.0	flow rate/Hz
FLOP	filter option	short	no-con/no-set	0	0 to 3
FTIM	filter time constant	real	con/set	0.0	minutes
XREFIN	external reference input	real	con/set	0.0	deg. Celsius
XREFOP	external reference option	Boolean	no-con/no-set	0	0 to 1
KSCALE	gain scaler	real	con/set	1.0	scalar
BSCALE	bias scale factor	real	con/set	0.0	output units
BAO	bad alarm option	Boolean	no-con/no-set	0	0 to 1
BAT	bad alarm text	string	no-con/no-set	blank	1 to 32 chars
BAP	bad alarm priority	integer	con/set	5	1 to 5
BAG	bad alarm group	short	no-con/set	1	1 to 8
ORAO	out of range alarm option	Boolean	no-con/no-set	0	0 to 1
ORAT	out of range text	string	no-con/no-set	blank	1 to 32 chars
ORAP	out of range priority	integer	con/set	5	1 to 5
ORAG	out of range group	short	no-con/set	1	1 to 8
HLOP	high/low alarm option	short	no-con/no-set	0	0 to 3

Table 2-1. AIN Block Parameters (Continued)

Name	Description	Type	Accessibility	Default	Units/Range
ANM	alarm name point 1	string	no-con/no-set	blank	1 to 12 chars
HAL	high alarm limit	real	con/set	100.0	RO1
HAT	high alarm text	string	no-con/no-set	blank	1 to 32 chars
LAL	low alarm limit	real	con/set	0.0	RO1
LAT	low alarm text	string	no-con/no-set	blank	1 to 32 chars
HLDB	high/low alarm deadband	real	no-con/set	0.0	RO1
HLPR	high/low priority	integer	con/set	5	1 to 5
HLGP	high alarm group	short	no-con/set	1	1 to 8
HHAOPT	high-high alarm option	short	no-con/no-set	0	0 to 3
HHALIM	high-high alarm limit	real	con/set	100.0	RO1
HHATXT	high-high alarm text	string	no-con/no-set	blank	1 to 32 chars
LLALIM	low-low alarm limit	real	con/set	0.0	RO1
LLATXT	low-low alarm text	string	no-con/no-set	blank	1 to 32 chars
HHAPRI	high-high alarm priority	integer	con/set	5	1 to 5
HHAGRP	high-high alarm group	short	no-con/set	1	1 to 8
PROPT	propagate error option	Boolean	no-con/no-set	0	0 to 1
MEAS	optional input	real	con/set	0.0	--
Non-Configurable Parameters					
OUTPUTS					
BAD	bad I/O status	Boolean	con/no-set	0	0 to 1
CRIT	alarm criticality	integer	con/no-set	0	0 to 5
HAI	high alarm indicator	Boolean	con/no-set	0	0 to 1
HHAIND	high-high alarm indicator	Boolean	con/no-set	0	0 to 1
HOR	high out-of-range	Boolean	con/no-set	0	0 to 1
LAI	low alarm indicator	Boolean	con/no-set	0	0 to 1
LLAIND	low-low alarm indicator	Boolean	con/no-set	0	0 to 1
LOR	low out-of-range	Boolean	con/no-set	0	0 to 1
PNT	point output	real	con/no-set	0.0	RO1
PRTYPE	priority type	integer	con/no-set	0	0 to 25
RAWC	raw counts	real	con/no-set	0.0	0 to 65535
UNACK	unacknowledge alarm	Boolean	con/no-set	0	0 to 1
DATA STORES					
ACHNGE	alternate change	integer	con/no-set	0	-32768 to 32767
ALMSTA	alarm status	pack_I	con/no-set	0	bit map
ALMOPT	alarm options	pack_I	no-con/no-set	0	0-FFFFFFFF
BLKSTA	block status	pack_I	con/no-set	0	bit map
DEFINE	no config errors	Boolean	no-con/no-set	1	0 to 1
ERCODE	configuration error	string	no-con/no-set	0	1 to 43 chars
DEV_ID	FBM Letterbug	char[6]	no-con/no-set	blank	1 to 6 chars
INHSTA	inhibit status	pack_I	con/no-set	0	bit map
LOCKID	lock identifier	string	no-con/no-set	blank	8 to 13 chars
LOCKRQ	lock request	Boolean	no-con/set	0	0 to 1
OWNER	owner name	string	no-con/set	blank	1 to 32 chars
PERTIM	period time	real	no-con/no-set	0.1	seconds
RO1	output range	real[3]	no-con/no-set	100,0,1	specifiable

Table 2-1. AIN Block Parameters (Continued)

Name	Description	Type	Accessibility	Default	Units/Range
NR_INP	number of inputs	short	no-con/no-set	0	0 to 255
NR_OUT	number of outputs	short	no-con/no-set	0	0 to 255
OF_INP	offset to inputs	integer	no-con/no-set	0	0 to 255
OF_OUT	offset to outputs	integer	no-con/no-set	0	0 to 255

CIN – Contact Input Block Parameters

Name	Description	Type	Accessibility	Default	Units/Range
Configurable Parameters					
INPUTS					
NAME	block name	string	no-con/no-set	---	1 to 12 chars
TYPE	block type	integer	no-con/no-set	31	CIN
DESCRP	descriptor	string	no-con/no-set	blank	1 to 32 chars
PERIOD	block sample time	short	no-con/no-set	1	0 to 13
PHASE	block execute phase	integer	no-con/no-set	0	---
LOOPID	loop identifier	string	no-con/set	blank	1 to 32 chars
IOMOPT	FBM input option	boolean	no-con/no-set	1	0 to 1
IOM_ID	FBM identifier	string	no-con/no-set	blank	1 to 6 chars
PNT_NO	FBM point number	string	no-con/no-set	1	1 to 32
ANM	point alarm name	string	no-con/no-set	blank	1 to 12 chars
NM0	alarm state name 0	string	no-con/no-set	blank	1 to 12 chars
NM1	alarm state name 1	string	no-con/no-set	blank	1 to 12 chars
IVO	invert option	boolean	no-con/no-set	0	0 to 1
MA	manual/auto	boolean	con/set	0	0 to 1
INITMA	initialize MA	short	no-con/no-set	1	0 to 2
INHOPT	inhibit option	short	no-con/no-set	0	0 to 3
INHIB	alarm inhibit	boolean	con/set	0	0 to 1
INHALM	inhibit alarm	pack_b	con/set	0	0 to FFFF

Table 17-1. CIN Block Parameters (Continued)

Name	Description	Type	Accessibility	Default	Units/Range
INVALM	invert alarm option	boolean	no-con/no-set	0	0 to 1
MANALM	manual alarm option	short	no-con/no-set	0	0 to 1
SAO	state alarm option	boolean	no-con/no-set	0	0 to 1
SAP	state alarm priority	integer	con/set	5	1 to 5
SAG	state alarm group	short	no-con/set	1	1 to 8
BAO	bad alarm option	boolean	no-con/no-set	0	0 to 1
BAT	bad alarm text	string	no-con/no-set	blank	1 to 32 chars
BAP	bad alarm priority	integer	con/set	5	1 to 5
BAG	bad alarm group	short	no-con/set	1	1 to 8
SCOPT	state change option	short	no-con/no-set	0	0 to 3
SCGRP	state change group	short	no-con/set	1	1 to 8
SCTXT0	state change 0 text	string	no-con/no-set	blank	1 to 32 chars
SCTXT1	state change 1 text	string	no-con/no-set	blank	1 to 32 chars
PROPT	propagate error option	boolean	no-con/no-set	0	0 to 1
IN	input	boolean	con/set	0	0 to 1
AMRTIN	alarm regeneration timer	integer	no-con/no-set	0	0 to 32767 s
NASTDB	alarm deadband timer	long integer	no-con/no-set	0	0-2147483647 ms
NASOPT	nuisance alarm suppression option	short	no-con/no-set	0	0 to 2

Non-Configurable Parameters

OUTPUTS

ALMSTA	alarm status	pack_l	con/no-set	0	bit map
BAD	bad I/O status	boolean	con/no-set	0	0 to 1
BLKSTA	block status	pack_l	con/no-set	0	bit map
CIN	contact input	boolean	con/no-set	0	0 to 1
CRIT	alarm criticality	integer	con/no-set	0	0 to 5
INHSTA	inhibit status	pack_l	con/no-set	0	bit map
PRTYPE	priority type	integer	con/no-set	0	0 to 9
QALSTA	quality status	pack_l	con/no-set	0	0 to FFFFFFFF
UNACK	unacknowledge alarm	boolean	con/no-set	0	0 to 1

DATA STORES

ACHNGE	alternate change	integer	con/no-set	0	-32768 to 32767
ALMOPT	alarm options	pack_l	no-con/no-set	0	0 to FFFFFFFF
DEFINE	no config errors	boolean	no-con/no-set	1	0 to 1
DEV_ID	FBM letterbug	char[6]	no-con/no-set	blank	1 to 6 chars
ERCODE	configuration error	string	no-con/no-set	blank	1 to 43 chars
LOCKID	lock identifier	string	no-con/no-set	blank	8 to 13 chars
LOCKRQ	lock request	boolean	no-con/set	0	0 to 1
OWNER	owner name	string	no-con/set	blank	1 to 32 chars

COUT – Contact Output Block Parameters

Table 20-1. COUT Block Parameters

Name	Description	Type	Accessibility	Default	Units/Range
Configurable Parameters					
INPUTS					
NAME	block name	string	no-con/no-set	blank	1 to 12 chars
TYPE	block type	integer	no-con/no-set	33	COUT
DESCRP	descriptor	string	no-con/no-set	blank	1 to 32 chars
PERIOD	block sample time	short	no-con/no-set	1	0 to 13
PHASE	block execute phase	integer	no-con/no-set	0	---
LOOPID	loop identifier	string	no-con/set	blank	1 to 32 chars
IOMOPT	FBM output option	boolean	no-con/no-set	1	0 to 1
IOM_ID	FBM identifier	string	no-con/no-set	blank	1 to 6 chars
PNT_NO	FBM point number	string	no-con/no-set	1	1 to 32
IN	generic input	boolean	con/set	0	0 to 1
PROPT	propagate error option	boolean	no-con/no-set	0	0 to 1
EROPT	error option	short	no-con/no-set	0	0 to 2
PLSOPT	pulse option	boolean	no-con/no-set	0	0 to 1
WIDTH	pulse width	real	con/set	0.0	minutes
INVCO	invert cout state	boolean	no-con/no-set	0	0 to 1
MA	manual/auto	boolean	con/set	0	0 to 1
INITMA	initialize MA	short	no-con/no-set	1	0 to 2
MANFS	manual if failsafe	boolean	no-con/no-set	0	0 to 1
INHOPT	inhibit option	short	no-con/no-set	0	0 to 3
INHIB	alarm inhibit	boolean	con/set	0	0 to 1
BAO	bad alarm option	boolean	no-con/no-set	0	0 to 1
BAT	bad alarm text	string	no-con/no-set	blank	1 to 32 chars
BAP	bad alarm priority	integer	con/set	5	1 to 5
BAG	bad alarm group	short	no-con/set	1	1 to 8
DEV_ID	FBM Letterbug	char[6]	no-con/no-set	blank	1 to 6 chars
AMRTIN	alarm regeneration timer	integer	no-con/no-set	0	0 to 32767 s

Non-Configurable Parameters

OUTPUTS

ALMSTA	alarm status	pack_l	con/no-set	0	bit map
BAD	bad I/O status	boolean	con/no-set	0	0 to 1
BLKSTA	block status	pack_l	con/no-set	0	bit map
COUT	contact output	boolean	con/no-set	0	0 to 1
CRBK	contact readback	boolean	con/no-set	0	0 to 1
CRIT	alarm criticality	integer	con/no-set	0	0 to 5
FS	failsafe state	boolean	con/no-set	0	0 to 1
INHSTA	inhibit status	pack_l	con/no-set	0	0 to FFFFFFFF
INITO	initialize out	short	con/no-set	0	---
PRTYPE	priority type	integer	con/no-set	0	0 to 8
UNACK	unacknow alarm	boolean	con/no-set	0	0 to 1

Table 20-1. COUT Block Parameters (Continued)

Name	Description	Type	Accessibility	Default	Units/Range
DATA STORES					
ACHNGE	alternate change	integer	con/no-set	0	-32768 to 32767
ALMOPT	alarm options	pack_l	no-con/no-set	0	0 to FFFFFFFF
DEFINE	no config errors	boolean	no-con/no-set	1	0 to 1
ERCODE	configuration error	string	no-con/no-set	blank	1 to 43 chars
LOCKID	lock identifier	string	no-con/no-set	blank	8 to 13 chars
LOCKRQ	lock request	boolean	no-con/set	0	0 to 1
OWNER	owner name	string	no-con/set	blank	1 to 32 chars
PERTIM	period time	real	no-con/no-set	0.1	---

ACCUM – Accumulator Block Parameters

Table 1-1. ACCUM Block Parameters

Name	Description	Type	Accessibility	Default	Units/Range
Configurable Parameters					
INPUTS					
NAME	block name	string	no-con/no-set	blank	0 to 12 chars
TYPE	block type	integer	no-con/no-set	20	ACCUM
DESCRP	descriptor	string	no-con/no-set	blank	1 to 32 chars
PERIOD	block sample time	short	no-con/no-set	1	0 to 13
PHASE	block phase number	integer	no-con/no-set	0	---
LOOPID	loopid	string	no-con/set	blank	1 to 32 chars
MEAS	process input	real	con/set	0.0	RI1
HSCI1	high scale input 1	real	no-con/no-set	100.0	specifiable
LSCI1	low scale input 1	real	no-con/no-set	0.0	specifiable
DELTI1	change delta input 1	real	no-con/no-set	1.0	percent
EI1	eng units input 1	string	no-con/no-set	%	specifiable
MTRFAC	meter factor	real	con/set	1.0	[1..]scalar
PROPT	propagate error	boolean	no-con/no-set	0	0 to 1
SET	accumulator set	boolean	con/set	0	0 to 1
PRESET	accumulator preset	real	con/set	0.0	RO1
CLEAR	accumulator clear	boolean	con/set	0	0 to 1
HOLD	hold mode	boolean	con/set	0	0 to 1
HSCO1	high scale output 1	real	no-con/no-set	100.0	specifiable
LSCO1	low scale output 1	real	no-con/no-set	0.0	specifiable
DELTO1	change delta output1	real	no-con/no-set	1.0	percent
EO1	eng unit output 1	string	no-con/no-set	%	specifiable
INITCL	initial clear	boolean	no-con/no-set	1	0 to 1
MA	manual/auto	boolean	con/set	0	0 to 1
INITMA	initialize MA	short	no-con/no-set	1	[0 1 2]
CEOPT	control error option	short	no-con/no-set	1	0 to 2
PCNTOP	pulse count option	short	no-con/no-set	0	0 to 3
INHOPT	inhibit option	short	no-con/no-set	0	0 to 3
INHIB	alarm inhibit	boolean	con/set	0	0 to 1
INHALM	inhibit alarm	pack_b	con/set	0	0 to FFFF
OUTNM	output alarm name	string	no-con/no-set	blank	1 to 12 chars
HAOPT	high alarm option	boolean	no-con/no-set	0	0 to 1
HABLIM	high absolute limit	real	con/set	100.0	RO1
HABTXT	high alarm text	string	no-con/no-set	blank	1 to 32 chars
ABSPRI	absolute alarm priority	integer	con/set	5	[1 to 5]
ABSGRP	absolute alarm group	short	no-con/set	1	[1 to 8]
HHAOPT	high-high option	short	no-con/no-set	0	0 to 2
HHALIM	high-high limit	real	con/set	100.0	RO1
HHATXT	high-high alarm text	string	no-con/no-set	blank	1 to 32 chars
HHAPRI	high-high priority	integer	con/set	5	[1 to 5]
HHAGRP	high-high group	short	no-con/set	1	[1 to 8]

Table 1-1. ACCUM Block Parameters (Continued)

Name	Description	Type	Accessibility	Default	Units/Range
AMRTIN	alarm regeneration timer	integer	no-con/no-set	0	0 to 32767 s
Non-Configurable Parameters					
OUTPUTS					
ALMSTA	alarm status	pack_l	con/no-set	0	bit map
BLKSTA	block status	pack_l	con/no-set	0	bit map
CARRY	accumulator carry	boolean	con/no-set	0	0 to 1
CRIT	criticality	integer	con/no-set	0	[0 to 5]
HAIND	high absolute indicator	boolean	con/no-set	0	0 to 1
HHAIND	high-high absolute indicator	boolean	con/no-set	0	0 to 1
INHSTA	inhibit status	pack_l	con/no-set	0	0 to FFFFFFFF
MRATE	meas rate	real	con/no-set	0.0	RO1
OUT	output	real	con/no-set	0.0	RO1
PRTYPE	priority type	integer	con/no-set	0	[0 to 10]
UNACK	alarm notification	boolean	con/noset	0	0 to 1
DATA STORES					
ACHNGE	alternate change	integer	con/no-set	0	-32768 to 32767
ALMOPT	alarm options	pack_l	no-con/no-set	0	0 to FFFFFFFF
DEFINE	no config errors	boolean	no-con/no-set	1	0 to 1
ERCODE	config error	string	no-con/no-set	0	1 to 43 chars
LOCKID	lock identifier	string	no-con/no-set	blank	8 to 13 chars
LOCKRQ	lock request	boolean	no-con/set	0	0 to 1
OWNER	owner name	string	no-con/set	blank	1 to 32 chars
PERTIM	period time	real	no-con/no-set	0.1	seconds
PRSCON	present control	short	no-con/no-set	0	1 to 3
RI1	eng range input	real[3]	no-con/no-set	100,0,1	specifiable
RO1	eng range output	real[3]	no-con/no-set	100,0,1	specifiable

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