



# **Compact™ High Speed Counter Module Programming**

(Catalog Number 1769-HSC)

This Programming Quick Reference contains at-a-glance listings of the:

- Configuration Array
- Output Array
- Input Array

Refer to the *Compact High Speed Counter Module User Manual*, publication 1769-UM006A-EN-P for more information.

# Configuration Array

The default value for the Configuration Array is all zeros except where noted.

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Description																
0																	GeneralConfigBits →	OvercurrentLatchOff															
1	Filter_Z1		Filter_B1			Filter_A1			Filter_Z0			Filter_B0			Filter_A0			FilterA0_0, FilterA0_1 -- ...Z1_1	CtrlRst	OCLO	CtrlRst	OCLO	ProgToFaultEn										
2																	Out3 PSR	Out2 PSR	Out1 PSR	Out0 PSR	Out3 PM	Out2 PM	Out1 PM	Out0 PM	Out0ProgramStateRun -- Out3... and Out0ProgramMode -- Out3...	NumberOfCounters_0 <sup>(1)</sup>	NumberOfCounters_1						
3																					Out3 PV	Out2 PV	Out1 PV	Out0 PV	Out0ProgramValue --- Out3...								
4																	Out3 FSR	Out2 FSR	Out1 FSR	Out0 FSR	Out3 FM	Out2 FM	Out1 FM	Out0 FM	Out0FaultStateRun -- Out3FaultStateRun and Out0FaultMode -- Out3FaultMode								
5																					Out3 FV	Out2 FV	Out1 FV	Out0 FV	Out0FaultValue -- Out3FaultValue								
6																	Ctr0MaxCount <sup>(2)</sup>								Ctr0MaxCount								
7																	Ctr0MinCount <sup>(3)</sup>								Ctr0MinCount								
8																	Ctr0Preset								Ctr0Preset								
9																	Ctr0Hysteresis								Ctr0Hysteresis								
10																	Ctr0Scalar <sup>(4)</sup>								Ctr0Scalar								
11																	Ctr0CyclicRateUpdateTime <sup>(5)</sup>								Ctr0CyclicRateUpdateTime								
12																	Linear	Storage Mode				Operational Mode								Ctr0ConfigFlags	→	Ctr0Config.OperationalMode_0	
13																	Ctr1MaxCount <sup>(2)</sup>								Ctr1MaxCount								Ctr0Config.OperationalMode_1
14																	Ctr1MinCount <sup>(3)</sup>								Ctr1MinCount								Ctr0Config.OperationalMode_2
15																	Ctr1Preset								Ctr1Preset								Ctr0Config.StorageMode_0
16																	Ctr1Hysteresis								Ctr1Hysteresis								Ctr0Config.StorageMode_1
17																	Ctr1Scalar <sup>(4)</sup>								Ctr1Scalar								Ctr0Config.StorageMode_2
18																	Ctr1CyclicRateUpdateTime <sup>(5)</sup>								Ctr1CyclicRateUpdateTime								Ctr0Config.Linear
19																	Linear	Storage Mode				Operational Mode								Ctr1ConfigFlags	→	Ctr1Config.OperationalMode_0	
20																	Ctr2MaxCount <sup>(2)</sup>								Ctr2MaxCount								Ctr1Config.OperationalMode_1
21																	Ctr2MinCount <sup>(3)</sup>								Ctr2MinCount								Ctr1Config.OperationalMode_2
22																	Ctr2Preset								Ctr2Preset								Ctr1Config.StorageMode_0
23																	Ctr2Hysteresis								Ctr2Hysteresis								Ctr1Config.StorageMode_1
24																	Ctr2Scalar <sup>(4)</sup>								Ctr2Scalar								Ctr1Config.StorageMode_2
25																	Ctr2CyclicRateUpdateTime <sup>(5)</sup>								Ctr2CyclicRateUpdateTime								Ctr1Config.Linear
26																	Linear	Storage Mode				Operational Mode								Ctr2ConfigFlags	→	Ctr2Config.Linear	
27																	Ctr3MaxCount <sup>(2)</sup>								Ctr3MaxCount								Ctr2Config.Linear
28																	Ctr3MinCount <sup>(3)</sup>								Ctr3MinCount								Ctr2Config.Linear
29																	Ctr3Preset								Ctr3Preset								Ctr2Config.Linear
30																	Ctr3Hysteresis								Ctr3Hysteresis								Ctr2Config.Linear
31																	Ctr3Scalar <sup>(4)</sup>								Ctr3Scalar								Ctr2Config.Linear
32																	Ctr3CyclicRateUpdateTime <sup>(5)</sup>								Ctr3CyclicRateUpdateTime								Ctr2Config.Linear
33																	Linear	Storage Mode				Operational Mode								Ctr3ConfigFlags	→	Ctr3Config.Linear	
34																	Range0to11[0].HighLimit								Range0to11[0].HighLimit								Ctr3Config.Linear
35																	Range0to11[0].LowLimit								Range0to11[0].LowLimit								Ctr3Config.Linear
36	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[0].OutputControl																
37																	Inv	Type				ToThisCtr								Range0to11[0].ConfigFlags	→	Range0to11[0].ToThisCounter_0	
38																	Range0to11[1].HighLimit								Range0to11[1].HighLimit								Range0to11[0].ToThisCounter_1
39																	Range0to11[1].LowLimit								Range0to11[1].LowLimit								Range0to11[0].Type
40	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[1].OutputControl																
41																	Inv	Type				ToThisCtr								Range0to11[1].ConfigFlags	→	Range0to11[1].ToThisCounter_0	
42																	Range0to11[2].HighLimit								Range0to11[2].HighLimit								Range0to11[1].ToThisCounter_1
43																	Range0to11[2].LowLimit								Range0to11[2].LowLimit								Range0to11[1].Type
44	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[2].OutputControl																
45																	Inv	Type				ToThisCtr								Range0to11[2].ConfigFlags	→	Range0to11[2].ToThisCounter_0	
46																	Range0to11[2].HighLimit								Range0to11[2].HighLimit								Range0to11[2].Type
47																	Range0to11[2].LowLimit								Range0to11[2].LowLimit								Range0to11[2].Invert
48	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[2].OutputControl																
49																	Inv	Type				ToThisCtr								Range0to11[2].ConfigFlags	→	Range0to11[2].ToThisCounter_0	
50																	Range0to11[2].HighLimit								Range0to11[2].HighLimit								Range0to11[2].Type
51																	Range0to11[2].LowLimit								Range0to11[2].LowLimit								Range0to11[2].Invert
52	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[2].OutputControl																
53																	Inv	Type				ToThisCtr								Range0to11[2].ConfigFlags	→	Range0to11[2].ToThisCounter_0	
54																	Range0to11[2].HighLimit								Range0to11[2].HighLimit								Range0to11[2].Type
55																	Range0to11[2].LowLimit								Range0to11[2].LowLimit								Range0to11[2].Invert
56	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[2].OutputControl																
57																	Inv	Type				ToThisCtr								Range0to11[2].ConfigFlags	→	Range0to11[2].ToThisCounter_0	
58																	Range0to11[2].HighLimit								Range0to11[2].HighLimit								Range0to11[2].Type
59																	Range0to11[2].LowLimit								Range0to11[2].LowLimit								Range0to11[2].Invert
60	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[2].OutputControl																
61																	Inv	Type				ToThisCtr								Range0to11[2].ConfigFlags	→	Range0to11[2].ToThisCounter_0	
62																	Range0to11[2].HighLimit								Range0to11[2].HighLimit								Range0to11[2].Type
63																	Range0to11[2].LowLimit								Range0to11[2].LowLimit								Range0to11[2].Invert

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Description	
63								Inv				Type				ToThisCtr	Range0to11[2].ConfigFlags →	
64	Range0to11[3].HighLimit																Range0to11[3].HighLimit	Range0to11[2].ToThisCounter_0 Range0to11[2].ToThisCounter_1 Range0to11[2].Type Range0to11[2].Invert
65	Range0to11[3].LowLimit																Range0to11[3].LowLimit	
66	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[3].OutputControl	
67								Inv				Type				ToThisCtr	Range0to11[3].ConfigFlags →	
68	Range0to11[4].HighLimit																Range0to11[4].HighLimit	Range0to11[3].ToThisCounter_0 Range0to11[3].ToThisCounter_1 Range0to11[3].Type Range0to11[3].Invert
69	Range0to11[4].LowLimit																Range0to11[4].LowLimit	
70	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[4].OutputControl	
71								Inv				Type				ToThisCtr	Range0to11[4].ConfigFlags →	
72	Range0to11[5].HighLimit																Range0to11[5].HighLimit	Range0to11[4].ToThisCounter_0 Range0to11[4].ToThisCounter_1 Range0to11[4].Type Range0to11[4].Invert
73	Range0to11[5].LowLimit																Range0to11[5].LowLimit	
74	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[5].OutputControl	
75								Inv				Type				ToThisCtr	Range0to11[5].ConfigFlags →	
76	Range0to11[6].HighLimit																Range0to11[6].HighLimit	Range0to11[5].ToThisCounter_0 Range0to11[5].ToThisCounter_1 Range0to11[5].Type Range0to11[5].Invert
77	Range0to11[6].LowLimit																Range0to11[6].LowLimit	
78	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[6].OutputControl	
79								Inv				Type				ToThisCtr	Range0to11[6].ConfigFlags →	
80	Range0to11[7].HighLimit																Range0to11[7].HighLimit	Range0to11[6].ToThisCounter_0 Range0to11[6].ToThisCounter_1 Range0to11[6].Type Range0to11[6].Invert
81	Range0to11[7].LowLimit																Range0to11[7].LowLimit	
82	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[7].OutputControl	
83								Inv				Type				ToThisCtr	Range0to11[7].ConfigFlags →	
84	Range0to11[8].HighLimit																Range0to11[8].HighLimit	Range0to11[7].ToThisCounter_0 Range0to11[7].ToThisCounter_1 Range0to11[7].Type Range0to11[7].Invert
85	Range0to11[8].LowLimit																Range0to11[8].LowLimit	
86	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[8].OutputControl	
87								Inv				Type				ToThisCtr	Range0to11[8].ConfigFlags →	
88	Range0to11[9].HighLimit																Range0to11[9].HighLimit	Range0to11[8].ToThisCounter_0 Range0to11[8].ToThisCounter_1 Range0to11[8].Type Range0to11[8].Invert
89	Range0to11[9].LowLimit																Range0to11[9].LowLimit	
90	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[9].OutputControl	
91								Inv				Type				ToThisCtr	Range0to11[9].ConfigFlags →	
92	Range0to11[10].HighLimit																Range0to11[10].HighLimit	Range0to11[9].ToThisCounter_0 Range0to11[9].ToThisCounter_1 Range0to11[9].Type Range0to11[9].Invert
93	Range0to11[10].LowLimit																Range0to11[10].LowLimit	
94	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[10].OutputControl	
95								Inv				Type				ToThisCtr	Range0to11[10].ConfigFlags →	
96	Range0to11[11].HighLimit																Range0to11[11].HighLimit	Range0to11[10].ToThisCounter_0 Range0to11[10].ToThisCounter_1 Range0to11[10].Type Range0to11[10].Invert
97	Range0to11[11].LowLimit																Range0to11[11].LowLimit	
98	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[11].OutputControl	
99								Inv				Type				ToThisCtr	Range0to11[11].ConfigFlags →	
100	Range0to11[12].HighLimit																Range0to11[12].HighLimit	Range0to11[11].ToThisCounter_0 Range0to11[11].ToThisCounter_1 Range0to11[11].Type Range0to11[11].Invert
101	Range0to11[12].LowLimit																Range0to11[12].LowLimit	
102	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[12].OutputControl	
103								Inv				Type				ToThisCtr	Range0to11[12].ConfigFlags →	
104	Range0to11[13].HighLimit																Range0to11[13].HighLimit	Range0to11[12].ToThisCounter_0 Range0to11[12].ToThisCounter_1 Range0to11[12].Type Range0to11[12].Invert
105	Range0to11[13].LowLimit																Range0to11[13].LowLimit	
106	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[13].OutputControl	
107								Inv				Type				ToThisCtr	Range0to11[13].ConfigFlags →	
108	Range0to11[14].HighLimit																Range0to11[14].HighLimit	Range0to11[13].ToThisCounter_0 Range0to11[13].ToThisCounter_1 Range0to11[13].Type Range0to11[13].Invert
109	Range0to11[14].LowLimit																Range0to11[14].LowLimit	
110	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[14].OutputControl	
111								Inv				Type				ToThisCtr	Range0to11[14].ConfigFlags →	
112	Range0to11[15].HighLimit																Range0to11[15].HighLimit	Range0to11[14].ToThisCounter_0 Range0to11[14].ToThisCounter_1 Range0to11[14].Type Range0to11[14].Invert
113	Range0to11[15].LowLimit																Range0to11[15].LowLimit	
114	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range0to11[15].OutputControl	
115								Inv				Type				ToThisCtr	Range0to11[15].ConfigFlags →	
116	Range0to11[16].HighLimit																Range0to11[16].HighLimit	Range0to11[15].ToThisCounter_0 Range0to11[15].ToThisCounter_1 Range0to11[15].Type Range0to11[15].Invert
117	Range0to11[16].LowLimit																Range0to11[16].LowLimit	

- (1) The default value for NumberOfCounters is 01 (two counters declared).
- (2) The default value for CtrnMaxCount is +2,147,483,647 decimal for counters 0 and 1. The default value is 0 for counters 2 and 3.
- (3) The default value for CtrnMinCount is -2,147,483,648 decimal for counters 0 and 1. The default value is 0 for counters 2 and 3.
- (4) The default value for CtrnScalar is 1 for counters 0 and 1. The default value is 0 for counters 2 and 3.
- (5) The default value for CtrnCyclicRateUpdateTime is 10 for counters 0 and 1. The default value is 0 for counters 2 and 3.

# Output Array

The default value for the Output Array is all zeros.

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Description																																																																																																																																																																																																											
0	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	OutputOnMask.0 -- OutputOnMask.15																																																																																																																																																																																																											
1	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	OutputOffMask.0 -- OutputOffMask.15																																																																																																																																																																																																											
2	R15	R14	R13	R12	R11	R10	R09	R08	R07	R06	R05	R04	R03	R02	R01	R00	RangeEn.0 -- RangeEn.15																																																																																																																																																																																																											
3	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="16" style="text-align: center;">Reserved</td> </tr> <tr> <td colspan="16" style="text-align: center;">ResetBlownFuse</td> </tr> <tr> <td colspan="16" style="text-align: center;">RBF</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">RPW</td> <td colspan="2">RREZ</td> <td colspan="2">Z Inh</td> <td colspan="2">Z Inv</td> <td colspan="2">D Inh</td> <td colspan="2">D Inv</td> <td colspan="2">RCU</td> <td colspan="2">RCO</td> <td colspan="2">SP</td> <td colspan="2">En</td> <td colspan="2">→</td> <td colspan="2">Ctr0En</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">RPW</td> <td colspan="2">RREZ</td> <td colspan="2">Z Inh</td> <td colspan="2">Z Inv</td> <td colspan="2">D Inh</td> <td colspan="2">D Inv</td> <td colspan="2">RCU</td> <td colspan="2">RCO</td> <td colspan="2">SP</td> <td colspan="2">En</td> <td colspan="2">→</td> <td colspan="2">Ctr0SoftPreset</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">RPW</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">D Inh</td> <td colspan="2">RCU</td> <td colspan="2">RCO</td> <td colspan="2">SP</td> <td colspan="2">En</td> <td colspan="2">→</td> <td colspan="2">Ctr1ControlBits</td> <td colspan="2">Ctr0ResetCountOverflow</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">RPW</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">D Inh</td> <td colspan="2">RCU</td> <td colspan="2">RCO</td> <td colspan="2">SP</td> <td colspan="2">En</td> <td colspan="2">→</td> <td colspan="2">Ctr2ControlBits</td> <td colspan="2">Ctr0ResetCountUnderflow</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">D Inh</td> <td colspan="2">RCU</td> <td colspan="2">RCO</td> <td colspan="2">SP</td> <td colspan="2">En</td> <td colspan="2">→</td> <td colspan="2">Ctr3ControlBits</td> <td colspan="2">Ctr0DirectionInvert</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">→</td> <td colspan="2">Ctr0ZInhibit</td> <td colspan="2">Ctr0ResetRisingEdgeZ</td> </tr> </table>																Reserved																ResetBlownFuse																RBF																		RPW		RREZ		Z Inh		Z Inv		D Inh		D Inv		RCU		RCO		SP		En		→		Ctr0En				RPW		RREZ		Z Inh		Z Inv		D Inh		D Inv		RCU		RCO		SP		En		→		Ctr0SoftPreset				RPW								D Inh		RCU		RCO		SP		En		→		Ctr1ControlBits		Ctr0ResetCountOverflow				RPW								D Inh		RCU		RCO		SP		En		→		Ctr2ControlBits		Ctr0ResetCountUnderflow												D Inh		RCU		RCO		SP		En		→		Ctr3ControlBits		Ctr0DirectionInvert																						→		Ctr0ZInhibit		Ctr0ResetRisingEdgeZ	
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																	RPW								D Inh		RCU		RCO		SP		En		→		Ctr2ControlBits		Ctr0ResetCountUnderflow																																																																																																																																																																																					
																									D Inh		RCU		RCO		SP		En		→		Ctr3ControlBits		Ctr0DirectionInvert																																																																																																																																																																																					
																				→		Ctr0ZInhibit		Ctr0ResetRisingEdgeZ																																																																																																																																																																																																				
10	Range12To15[0].HiLimOrDirWr																Range12To15[0].HiLimOrDirWr																																																																																																																																																																																																											
11	Range12To15[0].LowLimit																Range12To15[0].LowLimit																																																																																																																																																																																																											
12	Range12To15[0].OutputControl.0 ... .15																Range12To15[0].OutputControl.0 ... .15																																																																																																																																																																																																											
14	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range12To15[0].Config Flags	→	Range12To15[0].ToThisCounter_0 Range12To15[0].ToThisCounter_1 Range12To15[0].Type Range12To15[0].LoadDirectWrite Range12To15[0].Invert																																																																																																																																																																																																									
15	Inv																LDW	Type	ToThisCtr		→		Range12To15[0].ToThisCounter_0 Range12To15[0].ToThisCounter_1 Range12To15[0].Type Range12To15[0].LoadDirectWrite Range12To15[0].Invert																																																																																																																																																																																																					
16	Range12To15[1].HiLimOrDirWr																Range12To15[1].HiLimOrDirWr																																																																																																																																																																																																											
17	Range12To15[1].LowLimit																Range12To15[1].LowLimit																																																																																																																																																																																																											
18	Range12To15[1].OutputControl.0 ... .15																Range12To15[1].OutputControl.0 ... .15																																																																																																																																																																																																											
20	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range12To15[1].Config Flags	→	Range12To15[1].ToThisCounter_0 Range12To15[1].ToThisCounter_1 Range12To15[1].Type Range12To15[1].LoadDirectWrite Range12To15[1].Invert																																																																																																																																																																																																									
21	Inv																LDW	Type	ToThisCtr		→		Range12To15[1].ToThisCounter_0 Range12To15[1].ToThisCounter_1 Range12To15[1].Type Range12To15[1].LoadDirectWrite Range12To15[1].Invert																																																																																																																																																																																																					
22	Range12To15[1].HiLimOrDirWr																Range12To15[1].HiLimOrDirWr																																																																																																																																																																																																											
23	Range12To15[1].LowLimit																Range12To15[1].LowLimit																																																																																																																																																																																																											
24	Range12To15[1].OutputControl.0 ... .15																Range12To15[1].OutputControl.0 ... .15																																																																																																																																																																																																											
26	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range12To15[2].Config Flags	→	Range12To15[2].ToThisCounter_0 Range12To15[2].ToThisCounter_1 Range12To15[2].Type Range12To15[2].LoadDirectWrite Range12To15[2].Invert																																																																																																																																																																																																									
27	Inv																LDW	Type	ToThisCtr		→		Range12To15[2].ToThisCounter_0 Range12To15[2].ToThisCounter_1 Range12To15[2].Type Range12To15[2].LoadDirectWrite Range12To15[2].Invert																																																																																																																																																																																																					
28	Range12To15[2].HiLimOrDirWr																Range12To15[2].HiLimOrDirWr																																																																																																																																																																																																											
29	Range12To15[2].LowLimit																Range12To15[2].LowLimit																																																																																																																																																																																																											
30	Range12To15[2].OutputControl.0 ... .15																Range12To15[2].OutputControl.0 ... .15																																																																																																																																																																																																											
32	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Range12To15[3].Config Flags	→	Range12To15[3].ToThisCounter_0 Range12To15[3].ToThisCounter_1 Range12To15[3].Type Range12To15[3].LoadDirectWrite Range12To15[3].Invert																																																																																																																																																																																																									
33	Inv																LDW	Type	ToThisCtr		→		Range12To15[3].ToThisCounter_0 Range12To15[3].ToThisCounter_1 Range12To15[3].Type Range12To15[3].LoadDirectWrite Range12To15[3].Invert																																																																																																																																																																																																					

# Input Array

The default value for the Input Array is all zeros.

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Description		
0											Z1	B1	A1	Z0	B0	A0	InputStateA0 -- InputStateZ1		
1	Out15	Out14	Out13	Out12	Out11	Out10	Out09	Out08	Out07	Out06	Out05	Out04	Out03	Out02	Out01	Out00	Readback.0 -- Readback.15		
2	InvalidRangeLimit12...15				InvalidCtrAssignToRange12...15				GenErr	InvOut	MCfg	Out0Overcurrent -- Out3...				Status Flags	→ InvalidRangeLimit12 ... 15 InvalidCtrAssignToRange12 ... 15		
3	R15	R14	R13	R12	R11	R10	R09	R08	R07	R06	R05	R04	R03	R02	R01	R00	RangeActive.0 -- RangeActive.15 GenError InvalidOutput ModConfig Out0Overcurrent0 ... 3		
4	Ctr[0].CurrentCount										Ctr[0].CurrentCount								
5	Ctr[0].StoredCount										Ctr[0].StoredCount								
6	Ctr[0].CurrentRate										Ctr[0].CurrentRate								
7	Ctr[0].PulseInterval										Ctr[0].PulseInterval								
8											C0PW	RV	IDW	REZ	CUdf	COvf	Ctr[0].StatusFlags	→ Ctr[0].Overflow Ctr[0].Underflow Ctr[0].RisingEdgeZ Ctr[0].InvalidDirectWrite	
9											Reserved						Ctr[0].RateValid Ctr[0].PresetWarning		
10	Ctr[1].CurrentCount										Ctr[1].CurrentCount								
11	Ctr[1].StoredCount										Ctr[1].StoredCount								
12	Ctr[1].CurrentRate										Ctr[1].CurrentRate								
13	Ctr[1].PulseInterval										Ctr[1].PulseInterval								
14											C1PW	RV	IC	IDW	REZ	CUdf	COvf	Ctr[1].StatusFlags	→ Ctr[1].Overflow Ctr[1].Underflow Ctr[1].RisingEdgeZ Ctr[1].InvalidDirectWrite
15											Reserved						Ctr[1].RateValid Ctr[1].PresetWarning		
16	Ctr[2].CurrentCount										Ctr[2].CurrentCount								
17	Ctr[2].CurrentRate										Ctr[2].CurrentRate								
18											C2PW	RV	IC	IDW	CUdf	COvf	Ctr[2].StatusFlags	→ Ctr[2].Overflow Ctr[2].Underflow	
19											Reserved						Ctr[2].InvalidDirectWrite Ctr[2].InvalidCounter Ctr[2].RateValid Ctr[2].PresetWarning		
20	Ctr[3].CurrentCount										Ctr[3].CurrentCount								
21	Ctr[3].CurrentRate										Ctr[3].CurrentRate								
22											C3PW	RV	IC	IDW	CUdf	COvf	Ctr[3].StatusFlags	→ Ctr[3].Overflow Ctr[3].Underflow	
23											Reserved						Ctr[3].InvalidDirectWrite Ctr[3].InvalidCounter Ctr[3].RateValid Ctr[3].PresetWarning		

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Publication 1769-QR002A-EN-E - March 2002