



Digital Outputs
HE550DQM601
24VDC Out, Negative Logic
16 Outputs

SmartStix

For electronic information, see www.HornerOCS.com.

Programming information is contained in the Control Station Hardware Manual (MAN0227).

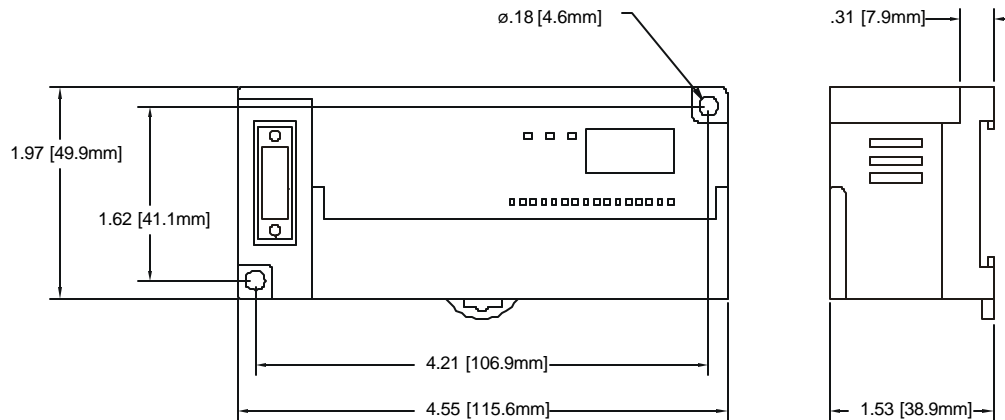
1 SPECIFICATIONS

Outputs				
Number of output points	16	External Power Supply	Voltage	24VDC \pm 10%(ripple voltage: 4Vp-p or less)
Commons per Module	1		Current	30mA (TYP, All points ON)
Operating Voltage	24VDC	OFF to ON Response		2ms.
Rated Load Voltage	24VDC	ON to OFF Response		2ms.
Maximum Load Current per channel	0.1A Max. per output 2A per common	Output Type		Sinking
OFF Leakage Current	0.1mA or less	Common Method		16 points / COM
Maximum Inrush Current per channel	0.4A, 10ms.	Operating Indicator		LED turns on during ON state of output
		External connections		Terminal block connector (M3 x 6 screws)
Maximum Voltage Drop during ON circuit	1.5VDC(0.5A)	Isolation methods		Photo Coupler
General Specifications				
Storage Temperature	-25° to 70° C	Altitude for use		Up to 2,000m
Operating Temperature	0° to 55° C	Pollution degree		2 or lower
Atmosphere	Free from corrosive gases and excessive dust	Internal power Consumption (mA)		280
Operating and Storage Humidity	5 to 95% Non-condensing	Weight		5.7 oz. (161g)
Cooling method	Self-cooling			

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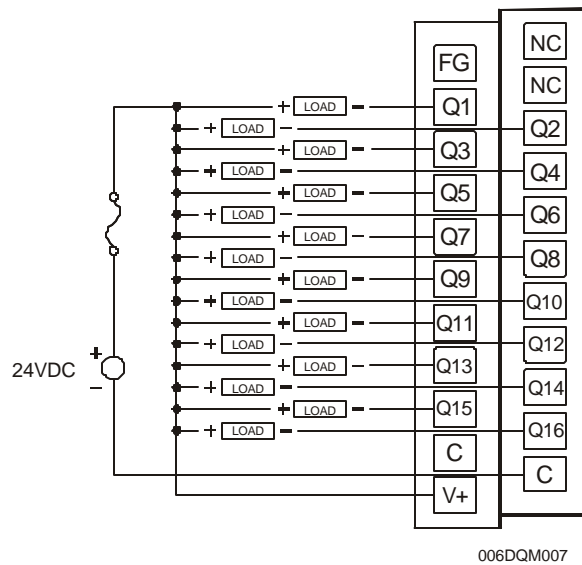
Vibration				
Occasional Vibration				
Frequency	Acceleration	Amplitude	Sweep Count	
10 ≤ f < 57 Hz	-	0.075 mm	10 times in each direction for X,Y,Z	
57 ≤ f ≤ 150 Hz	9.8 m/s ² {1G}	-		
Continuous Vibration				
Frequency	Acceleration	Amplitude	Sweep Count	
10 ≤ f < 57 Hz	-	0.035 mm	10 times in each direction for X,Y,Z	
57 ≤ f ≤ 150 Hz	4.9 m/s ² {0.5G}	-		
Shocks				
Maximum shock acceleration		147 m/s ² {15G}		
Duration Time		11 ms.		
Pulse Wave		Half sine wave pulse (3 times in each of X, Y, Z directions)		
Noise Immunity				
Square wave impulse noise		AC: ± 1,500VDC DC: ± 900VDC		
Electrostatic Discharge		Voltage: 4kV (contact discharge)		
Radiated electromagnetic field		27 – 500MHz, 10V/m		
Fast Transient Burst Noise	Severity level	All power modules	Digital I/Os (Ue ≥ 24V)	Digital I/Os (Ue < 24 V) Analog I/Os Communication I/Os
	Voltage	2 kV	1 kV	0.25 kV

2 DIMENSIONS



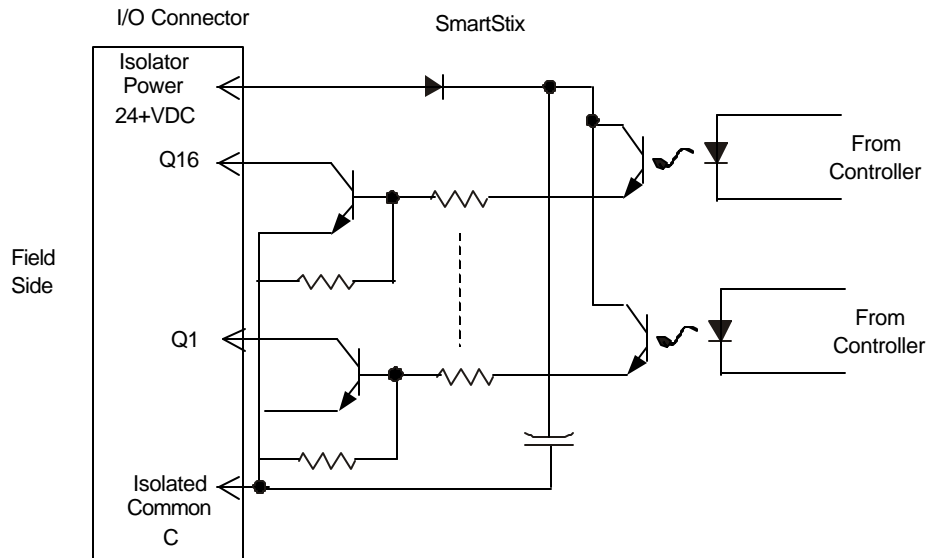
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3 WIRING



Pin	Signal DQM601
NC*	No Connection (*Do not Connect)
FG	Frame Ground
NC*	No Connection (*Do not Connect)
Q1	Output 1
Q2	Output 2
Q3	Output 3
Q4	Output 4
Q5	Output 5
Q6	Output 6
Q7	Output 7
Q8	Output 8
Q9	Output 9
Q10	Output 10
Q11	Output 11
Q12	Output 12
Q13	Output 13
Q14	Output 14
Q15	Output 15
Q16	Output 16
C	Isolated Common
C	Isolated Common
V+	Isolator Power

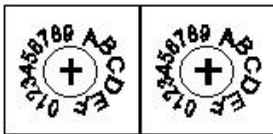
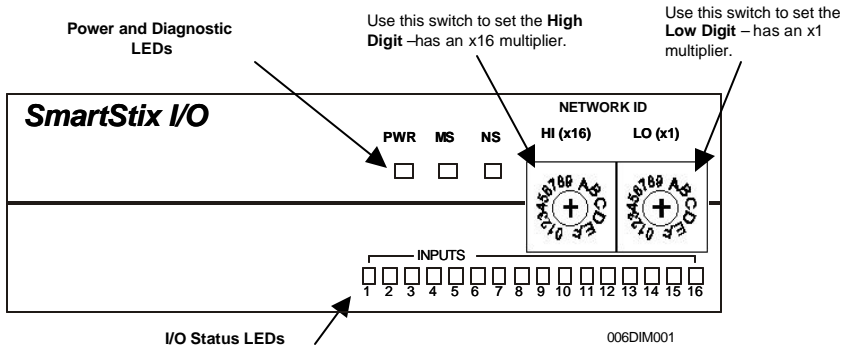
4 INTERNAL WIRING



5 SWITCHES

CsCAN Network IDs are set using the hexadecimal number system from 01 to FD. The decimal equivalent is 1-253. Refer to the following table, which shows the decimal equivalent of hexadecimal numbers. Set a unique Network ID by inserting a small Phillips screwdriver into the two *identical* switches.

Note: The CsCAN Baud Rate for SmartStix I/O is fixed at 125KBaud



Close-up of Switches

Decimal (Dec) to Hexadecimal (Hex) Conversion																
Dec	Hex		Dec	Hex		Dec	Hex		Dec	Hex	Dec	Hex		Dec	Hex	
	HI	LO		HI	LO		HI	LO				HI	LO		HI	LO
			54	3	6	108	6	C	162	A	2	216	D	8		
1	0	1	55	3	7	109	6	D	163	A	3	217	D	9		
2	0	2	56	3	8	110	6	E	164	A	4	218	D	A		
3	0	3	57	3	9	111	6	F	165	A	5	219	D	B		
4	0	4	58	3	A	112	7	0	166	A	6	220	D	C		
5	0	5	59	3	B	113	7	1	167	A	7	221	D	D		
6	0	6	60	3	C	114	7	2	168	A	8	222	D	E		
7	0	7	61	3	D	115	7	3	169	A	9	223	D	F		
8	0	8	62	3	E	116	7	4	170	A	A	224	E	0		
9	0	9	63	3	F	117	7	5	171	A	B	225	E	1		
10	0	A	64	4	0	118	7	6	172	A	C	226	E	2		
11	0	B	65	4	1	119	7	7	173	A	D	227	E	3		
12	0	C	66	4	2	120	7	8	174	A	E	228	E	4		
13	0	D	67	4	3	121	7	9	175	A	F	229	E	5		
14	0	E	68	4	4	122	7	A	176	B	0	230	E	6		
15	0	F	69	4	5	123	7	B	177	B	1	231	E	7		
16	1	0	70	4	6	124	7	C	178	B	2	232	E	8		
17	1	1	71	4	7	125	7	D	179	B	3	233	E	9		
18	1	2	72	4	8	126	7	E	180	B	4	234	E	A		
19	1	3	73	4	9	127	7	F	181	B	5	235	E	B		
20	1	4	74	4	A	128	8	0	182	B	6	236	E	C		
21	1	5	75	4	B	129	8	1	183	B	7	237	E	D		
22	1	6	76	4	C	130	8	2	184	B	8	238	E	E		
23	1	7	77	4	D	131	8	3	185	B	9	239	E	F		
24	1	8	78	4	E	132	8	4	186	B	A	240	F	0		
25	1	9	79	4	F	133	8	5	187	B	B	241	F	1		
26	1	A	80	5	0	134	8	6	188	B	C	242	F	2		
27	1	B	81	5	1	135	8	7	189	B	D	243	F	3		
28	1	C	82	5	2	136	8	8	190	B	E	244	F	4		
29	1	D	83	5	3	137	8	9	191	B	F	245	F	5		
30	1	E	84	5	4	138	8	A	192	C	0	246	F	6		
31	1	F	85	5	5	139	8	B	193	C	1	247	F	7		
32	2	0	86	5	6	140	8	C	194	C	2	248	F	8		
33	2	1	87	5	7	141	8	D	195	C	3	249	F	9		
34	2	2	88	5	8	142	8	E	196	C	4	250	F	A		
35	2	3	89	5	9	143	8	F	197	C	5	251	F	B		
36	2	4	90	5	A	144	9	0	198	C	6	252	F	C		
37	2	5	91	5	B	145	9	1	199	C	7	253	F	D		
38	2	6	92	5	C	146	9	2	200	C	8					
39	2	7	93	5	D	147	9	3	201	C	9					
40	2	8	94	5	E	148	9	4	202	C	A					
41	2	9	95	5	F	149	9	5	203	C	B					
42	2	A	96	6	0	150	9	6	204	C	C					
43	2	B	97	6	1	151	9	7	205	C	D					
44	2	C	98	6	2	152	9	8	206	C	E					
45	2	D	99	6	3	153	9	9	207	C	F					
46	2	E	100	6	4	154	9	A	208	D	0					
47	2	F	101	6	5	155	9	B	209	D	1					
48	3	0	102	6	6	156	9	C	210	D	2					
49	3	1	103	6	7	157	9	D	211	D	3					
50	3	2	104	6	8	158	9	E	212	D	4					
51	3	3	105	6	9	159	9	F	213	D	5					
52	3	4	106	6	A	160	A	0	214	D	6					
53	3	5	107	6	B	161	A	1	215	D	7					

6 LEDS

SmartStix I/O Modules provide diagnostic and status LED indicators.

a. Diagnostic LED Indicators

Diagnostic LED	State	Meaning
MS (indicates fault status of the Module)	Solid Red	RAM or ROM test failed
	Blinking Red	I/O test failed
	Blinking Green	Module is in power-up state
	Solid Green	Module is running normally
NS (indicates fault status of the Network)	Solid Red	Network Ack or Dup ID test failed
	Blinking Red	Network ID test failed
	Blinking Green	Module is in Life Expectancy default state
	Solid Green	Network is running normally

b. Status LED Indicators

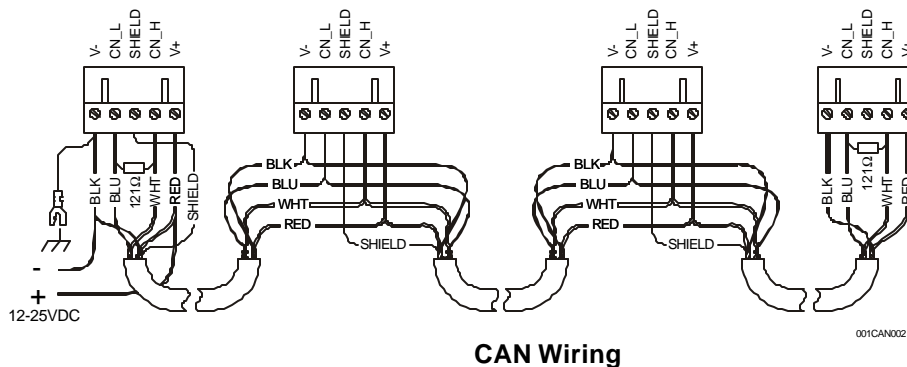
The Power Status LED illuminates Red when power is applied to the module. There are I/O Status LED indicators for each of the Digital I/O points, which illuminate Red when an I/O point is ON.

7 NETWORK CABLE

For detailed wiring information, refer to Chapter Two in the **Control Station Hardware Manual** (MAN0227). A handy checklist is provided that covers panel box layout requirements and minimum clearances.

Pin	Description
1	V+
2	CAN_H
3	Shield
4	CAN_L
5	V-

Recommended Cable	
Thick: (Max Distance = 500m)	Belden 3082A
Thin: (Max Distance = 100m)	Belden 3084A



Note: 12 - 24VDC must be supplied to the network.

8 INSTALLATION / SAFETY

- a. All applicable codes and standards need to be followed in the installation of this product.
- b. For I/O wiring (discrete), use the following wire type or equivalent: Belden 9918, 18 AWG or larger.
- c. For detailed installation information, refer to Chapter Two in the Control Station Hardware Manual (MAN0227). A handy checklist is provided that covers panel box layout requirements and minimum clearances.



Warning: Consult user documentation.



Warning: Electrical Shock Hazard.

9 TECHNICAL ASSISTANCE

For assistance, contact Technical Support at the following locations:

North America:

(317) 916-4274
www.heapg.com.

Europe:

(+) 353-21-4321-266
www.horner-apg.com.

NOTE