Digital Outputs

HE350DQM701

24VDC Out
Negative Logic
32 Outputs

SmartStix

For electronic information, see www.SmartStix.com.
This product has a Programming Reference (SUP0552).

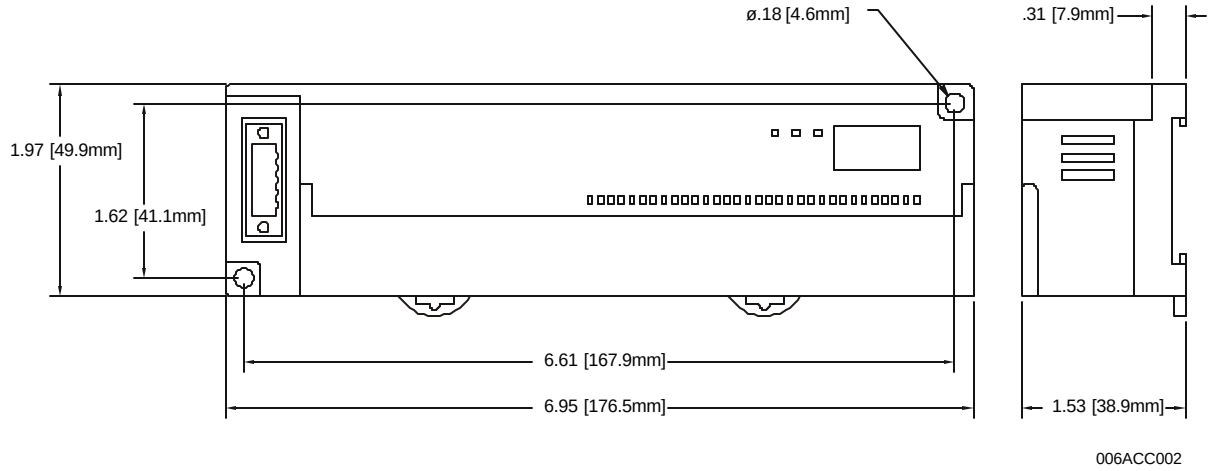
1 SPECIFICATIONS

Outputs				
Number of output points	32	**External Power Supply**	**Voltage**	24VDC ± 10%(ripple voltage: 4Vp-p or less)
Commons per Module	2		**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				
Storage Temperature	-25° to 70° C	**Pollution degree**		2 or lower
Operating Temperature	0° to 55° C	**Internal power Consumption (mA)**		380mA
Atmosphere	Free from corrosive gases and excessive dust	**Cooling method**		Self-cooling
Operating and Storage Humidity	5 to 95% Non-condensing	**Weight**		8.4 (238G)

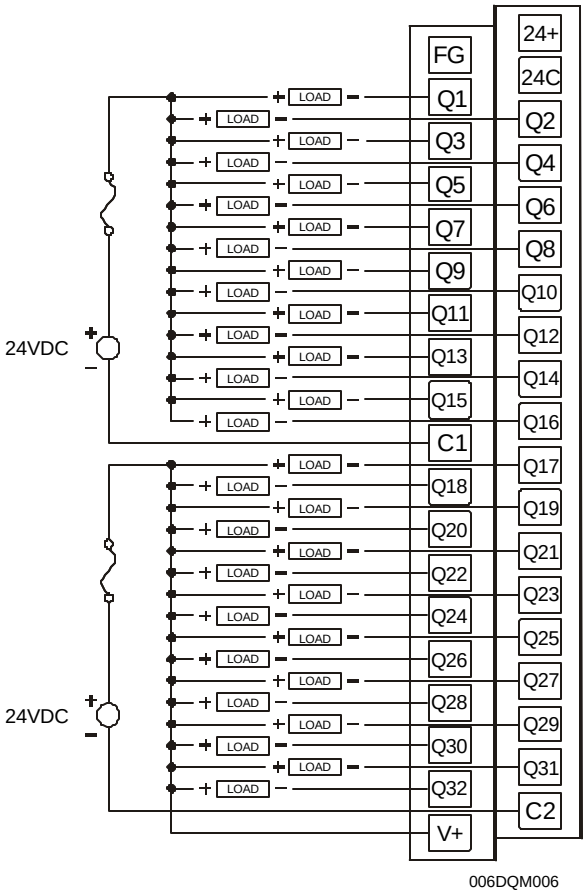
Vibration			
Occasional Vibration			
Frequency	**Acceleration**	**Amplitude**	**Sweep Count**
10 ≤ f < 57 Hz	-	0.075 mm	10 times in each direction for X,Y,Z
57 ≤ f ≤ 150 Hz	9.8 m/s^2 {1G}	-	
Continuous Vibration			
Frequency	**Acceleration**	**Amplitude**	**Sweep Count**
10 ≤ f < 57 Hz	-	0.035 mm	10 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



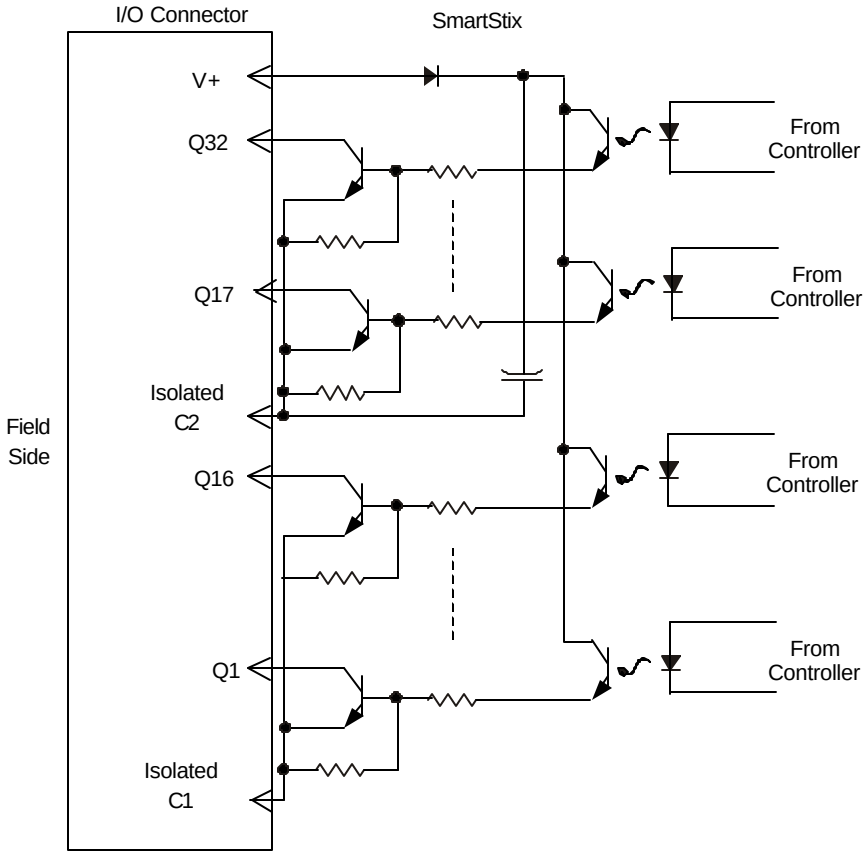
3 WIRING



006DQM006

Pin	Signal DQM701
24+	24V Power Supply
FG	Frame Ground
24C	Power Supply Return
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
C1	Isolated Common 1
Q17	Output 17
Q18	Output 18
Q19	Output 19
Q20	Output 20
Q21	Output 21
Q22	Output 22
Q23	Output 23
Q24	Output 24
Q25	Output 25
Q26	Output 26
Q27	Output 27
Q28	Output 28
Q29	Output 29
Q30	Output 30
Q31	Output 31
Q32	Output 32
C2	Isolated Common 2
V+	Isolator Power

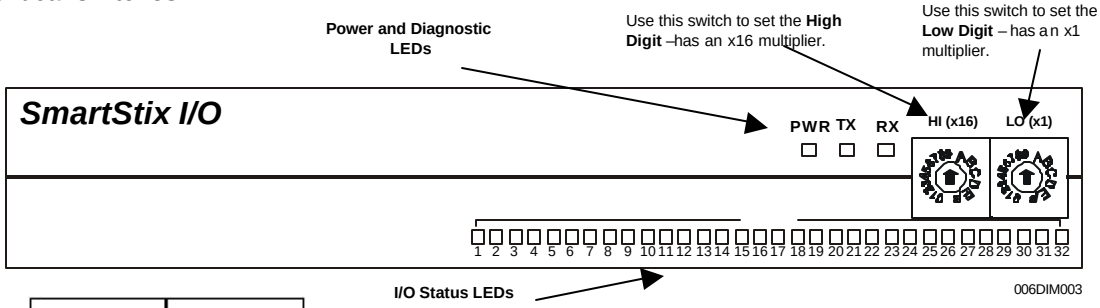
4 INTERNAL WIRING

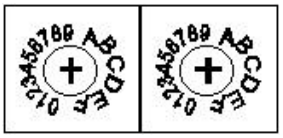


5 SWITCHES

Setting Slave Addresses:

Modbus Slave Addresses are set using the hexadecimal number system from 01 to F7. The decimal equivalent is 1 to 247. Refer to the conversion table in this, which shows the decimal equivalent of hexadecimal numbers. Set a unique address by inserting a small Phillips screwdriver into the two *identical* switches.





Close-up of Switches

Decimal (Dec) to Hexadecimal (Hex) Conversion														
Dec	**Hex**		**Dec**	**Hex**		**Dec**	**Hex**		**Dec**			**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			
33	2	1	87	5	7	141	8	D	**195**	C	3			
34	2	2	88	5	8	142	8	E	**196**	C	4			
35	2	3	89	5	9	143	8	F	**197**	C	5			
36	2	4	90	5	A	144	9	0	**198**	C	6			
37	2	5	91	5	B	145	9	1	**199**	C	7			
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			

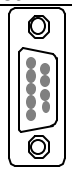
6 LEDS

Communication LED	Status
PWR	Displays the status of power
TX	Displays the status of sending of Comm. module
RX	Displays the status of receiving of Comm. module

7 NETWORK CABLE

a. Network Cable (RS-485)

MASTER Unit	Connection	SMART I/O Snet	
TX+		3	RX-
TX-		4	RX+
GND		5	GND
RX+		8	TX-
RX-		9	TX+



b. Modbus Support

Modbus ASCII Support	No
RTU Binary Support	Yes
Baud Rates	2400, 4800, 9600, 19.2K, 38.4K
Parity, Data Bits, Stop Bits	N, 8, 1
Handshaking	None
Modbus Commands Supported	3,4, 6,16
Modbus Offset	0

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.

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