



**24VDC Input Module**  
**HE550DIM710 / HE559DIM710**  
**Positive / Negative Logic**  
**32 Channels In**

*SmartStix*

For electronic information, see [www.HornerOCS.com](http://www.HornerOCS.com). Programming information is contained in the Control Station Hardware Manual (MAN0227).

HE550 denotes a non-removable terminal strip; HE559 denotes a removable terminal strip.

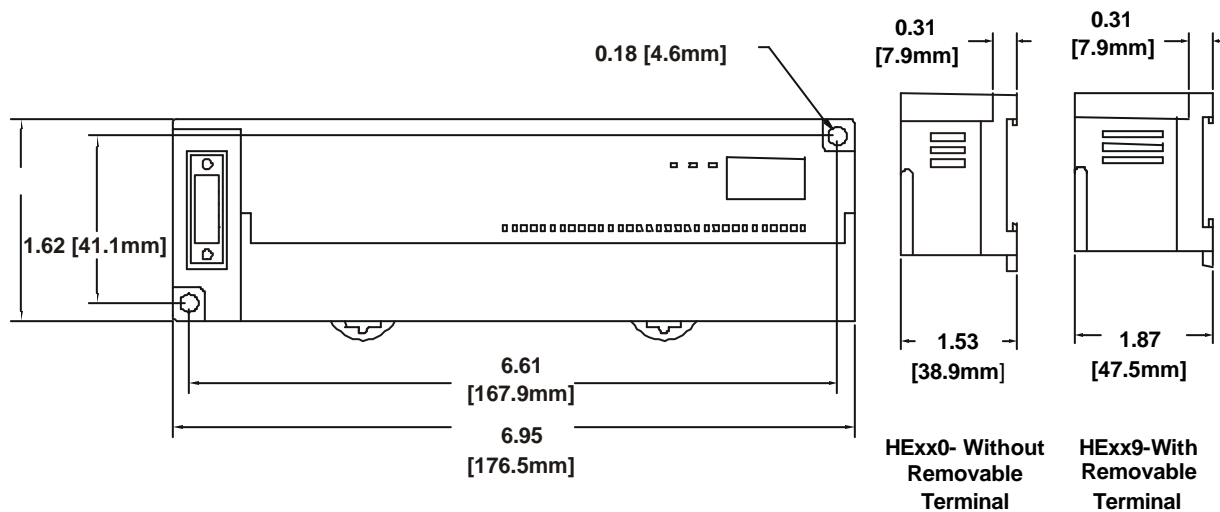
## 1 SPECIFICATIONS

INPUTS			
Number of input points	32	OFF to ON Response	0 - 3ms. or less
Rated Input Current	7mA	ON to OFF Response	0 - 3ms. or less
ON Voltage Level	19VDC or less	Common Terminal	16 points / COM
OFF Voltage Level	6VDC or less	Operating Indicator	LED turns on during ON state of input
Input Characteristics	Bidirectional	External Connections	Terminal block connector (M3 x 6 screws)
Isolation Method	Photo Coupler		
General			
Storage Temperature	-25° to 70° C	Pollution degree	2 or lower
Operating Temperature	0° to 55° C	Internal power Consumption (mA)	300
Atmosphere	Free from corrosive gases and excessive dust	Cooling method	Self-cooling
Operating and Storage Humidity	5 to 95% Non-condensing	Weight	8.36oz. (237 g)
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 <sup>2</sup> {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 <sup>2</sup> {0.5G}	-	

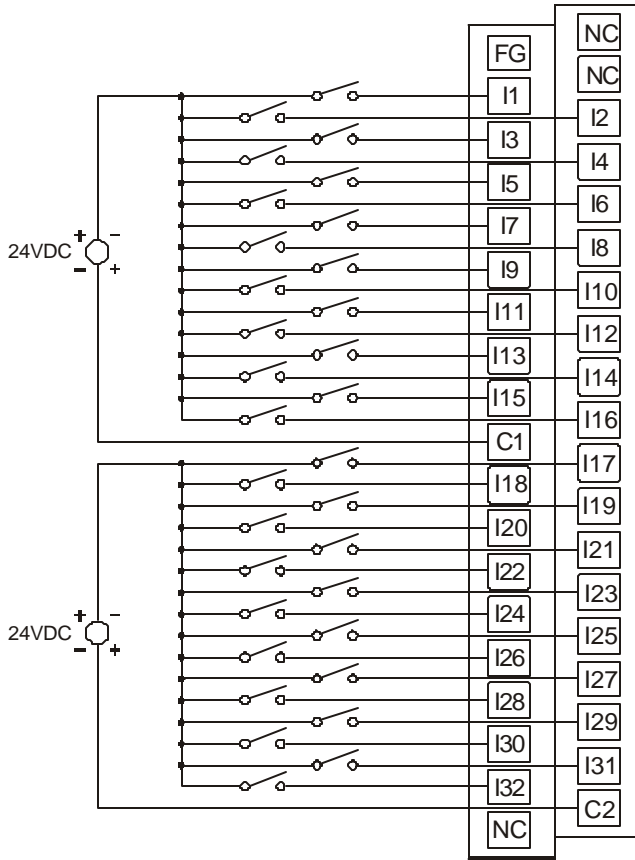
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Specifications continued				
<b>Shocks</b>				
<b>Maximum shock acceleration</b>	147 m/s <sup>2</sup> {15G}			
<b>Duration Time</b>	11 ms.			
<b>Pulse Wave</b>	Half sine wave pulse (3 times in each of X, Y, Z directions)			
<b>Noise Immunity</b>				
<b>Square wave impulse noise</b>	AC: ± 1,500VDC DC: ± 900VDC			
<b>Electrostatic Discharge</b>	Voltage: 4kV (contact discharge)			
<b>Radiated electromagnetic field</b>	27 – 500MHz, 10V/m			
<b>Fast Transient Burst Noise</b>	<b>Severity level</b>	All power modules	Digital I/Os (Ue ≥ 24V)	Digital I/Os (Ue < 24 V) Analog I/Os Communication I/Os
	<b>Voltage</b>	2 kV	1 kV	0.25 kV

**2 DIMENSIONS**



### 3 WIRING

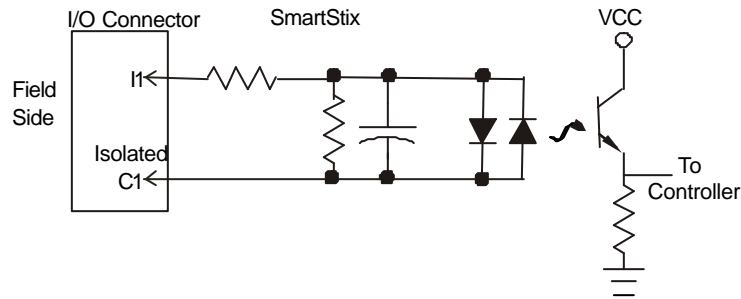


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**Note:** For proper operation, C1 and C2 must be tied together.

Pin	Signal DIM710
NC*	No Connection (*Do not Connect)
FG	Frame Ground
NC*	No Connection (*Do not Connect)
I1	Input 1
I2	Input 2
I3	Input 3
I4	Input 4
I5	Input 5
I6	Input 6
I7	Input 7
I8	Input 8
I9	Input 9
I10	Input 10
I11	Input 11
I12	Input 12
I13	Input 13
I14	Input 14
I15	Input 15
I16	Input 16
C1	Isolated Common 1
I17	Input 17
I18	Input 18
I19	Input 19
I20	Input 20
I21	Input 21
I22	Input 22
I23	Input 23
I24	Input 24
I25	Input 25
I26	Input 26
I27	Input 27
I28	Input 28
I29	Input 29
I30	Input 30
I31	Input 31
I32	Input 32
C2	Isolated Common 2
NC	No Connection

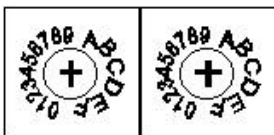
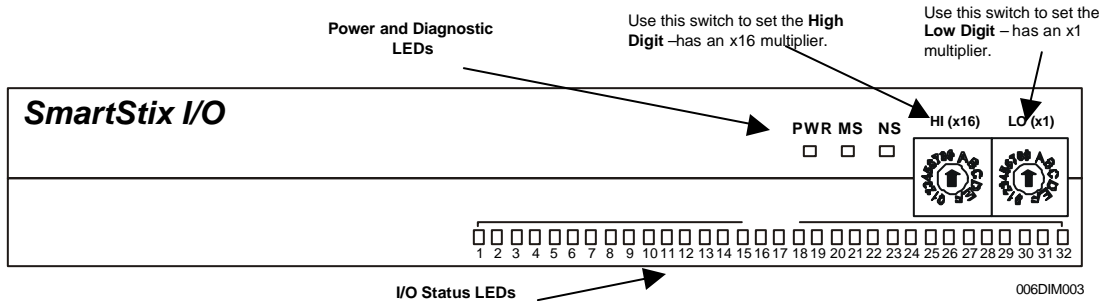
## 4 INTERNAL WIRING



## 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	
	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
<b>MS</b> (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
<b>NS</b> (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

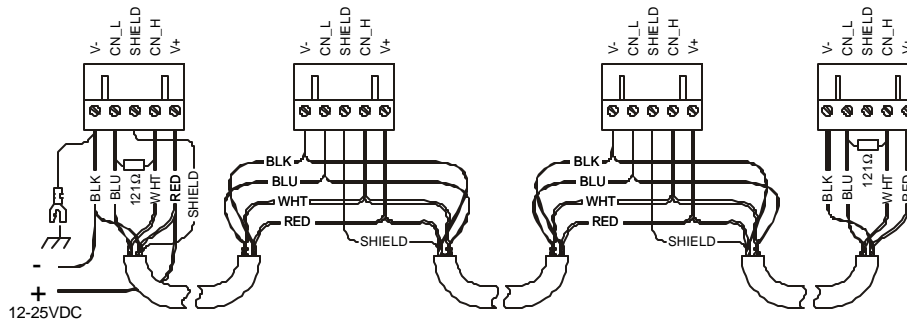
The Power Status LED illuminates Red when power is applied to the module. There are I/O Status LED indicators for each of the Digital I/O points, which illuminate Red when an I/O point is ON.

## 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](http://www.heapg.com)

### Europe:

(+) 353-21-4321-266  
[www.horner-apg.com](http://www.horner-apg.com)

**NOTE**