



SmartStack™ Modular I/O

Expandable, Stackable I/O System for OCS

Unlike conventional PLC I/O, SmartStack™ I/O is not a rack-based design. SmartStack I/O modules are snapped onto the Operator Control Station (OCS) or an off-mounted base, and then stacked onto each other. They utilize a very small amount of panel space for the number of I/O provided. SmartStack modules are encased in metal or plastic housings and meet stringent noise, vibration, and shock standards. A maximum of 4 modules can be stacked directly onto many OCS, and another 20 modules can be added by using the fiber optic FOX I/O System. Several OCS models can have 20 or more SmartStack modules using the FOX I/O System.

There are over 50 SmartStack I/O modules available. They include a variety of mixed I/O modules offering a combination of inputs and outputs, digital and analog, and specialty modules: High Speed Counter (1 MHz), Stepper Indexer, ASCII BASIC, and AC Power Monitoring modules. You can select from a full complement of temperature input modules (Thermocouple, RTD, Thermistor), and SmartStack communication options include Ethernet TCP/IP, DeviceNet™ Master and Slave, PROFIBUS™ Master and Slave and CANopen Master. Custom I/O configurations and modules are available at an added cost.



Many Ways to Expand

You have several ways to expand the number of SmartStack modules. Connecting a miniRCS via the CsCAN™ port adds one more SmartStack module; networking an RCS (Remote Control Station) controller allows you to add up to 4 more SmartStack modules. If you use a FOX100 I/O Fiber Optic Expansion Module and the FOX I/O System, you can have up to 23 SmartStack modules (3 modules and the FOX100 mounted on the OCS plus 20 modules with the FOX I/O System). When using NX and Color-Touchscreen OCS models, you may connect 5 bases and have up to 20 SmartStack modules. Here is a summary of expansion options:

OCS Models	Max No. of SmartStack Modules
NX, RCS, OCS110, OCS210, and OCS250	4
NX, OCS110, OCS210, or OCS250 plus RCS connected to CsCAN network	4 per OCS plus 4 per RCS
NX and Color-Touchscreen OCS using FOX I/O System	20 to 23
OCS110, OCS210, OCS250, RCS116 or RCS250 with FOX100 Expansion Module and FOX I/O System	23

Selection Guide

SmartStack I/O modules are available with metal or plastic housings. Contact your local Horner sales associate or the factory to learn which OCS models support SmartStack modules in plastic housings.

Metal	Plastic	SmartStack Specialty Modules
HE800ACM200	HE-ACM200	AC Power-line Monitor. Supports connection to three CTs (5A) and three PTs (120Vac). Provides a variety of Power data to the OCS/RCS.
HE800ASC100	HE-ASC100	ASCII BASIC coprocessor module. Module features 1 RS-232 and 1 RS-232/RS-485 port. 64K program/data memory. Features an interpreted BASIC. Module may be used for datalogging, complex serial communications.
HE800STP100	HE-STP100	Stepper Indexer. Module generates trapezoidal motion profiles. For use with Stepper Motor Drives compatible with 5V/TTL/Line Driver inputs. Supports step frequencies up to 245KHz. Supports optional encoder feedback. Capable of Relative, Absolute, and Registration (Index) moves.
HE800HSC600	HE-HSC600	High Speed Counter/PWM. Module features 8 Digital Inputs (0/5/12/24vdc, poslogic) and 8 Digital Outputs (5-30vdc, neg logic). 1 or 2 inputs may be used as High Speed Counters, and 1 or 2 outputs may be used as PWM Outputs. Max Freq 1 MHz.
HE800HSC601	HE-HSC601	High Speed Counter/PWM. Module features 8 Digital Inputs (0/5/12/24vdc, poslogic) and 8 Digital Outputs (5-30vdc, pos logic). 1 or 2 inputs may be used as High Speed Counters, and 1 or 2 outputs may be used as PWM Outputs. Max Freq 1 MHz.

Metal	Plastic	SmartStack Communication Modules
HE800ETN200	Not Available	Ethernet Interface Module. Support 100baseT, TCP/IP with Ethernet Global Data Protocol.
HE800DNT450	HE-DNT450	DeviceNet Master Module*
HE800DNT650	HE-DNT650	Enhanced DeviceNet Master Module*
HE800PBS600	HE-PBS600	PROFIBUS-DP Slave Module*
HE800PBM650	HE-PBM650	PROFIBUS-DP Master Module*
HE800COM650	HE-COM650	CANopen Master Module*

*Configurable using Cscape™ software

Compact

Rugged

Modular and
Expandable

Selection Guide

Metal	Plastic	SmartStack Digital Combo Modules
HE800DIQ611	HE-DIQ611	8 DC Inputs (12/24vdc, pos/neg logic), 8 DC Outputs (5/12/24vdc, 0.5A, neg logic with ESCP)
HE800DIQ612	HE-DIQ612	8 DC Inputs (12/24vdc, pos/neg logic), 6 Relay Outputs (250vac, 30vdc, 3.0A)
HE800DIQ616	HE-DIQ616	8 DC Inputs (12/24vdc, pos/neg logic), 8 DC Outputs (5/12/24vdc, 0.5A, pos logic with ESCP)
HE800DIQ622	HE-DIQ622	8 AC Inputs (120vac), 6 Relay Outputs (250vac, 30vdc, 3.0A)
HE800DIQ624	HE-DIQ624	8 AC Inputs (120vac), 8 AC Outputs (80-250vac, 0.5A)
HE800DIQ627	HE-DIQ627	8 AC Inputs (120/240vac), 8 AC Outputs (80-250vac, 2.0A)
HE800DIQ711	HE-DIQ711	16 DC Inputs (12/24vdc), 12 DC Outputs (5/12/24vdc, 0.5A neg. logic with ESCP)
HE800DIQ712	HE-DIQ712	14 DC Inputs (12/24vdc), 10 Relay Outputs (250vac, 30vdc, 3.0A)
HE800DIQ716	HE-DIQ716	16 DC Inputs (12/24vdc), 12 DC Outputs (10-28vdc, 0.5A pos. logic with ESCP)
HE800DIQ722	HE-DIQ722	14 AC Inputs (120vac), 10 Relay Outputs (250vac, 30vdc, 3.0A)
HE800DIQ935	HE-DIQ935	32 DC Inputs (24vdc pos logic), 40 DC Outputs (5/12/24vdc, 50mA, neg logic) Recommended for pushbutton/pilot light duty.

Metal	Plastic	SmartStack Digital I/O Modules
HE800DIM210	HE-DIM210	8 DC Inputs (12/24vdc, pos/neg logic)
HE800DIM310	HE-DIM310	16 DC Inputs (12/24vdc, pos/neg logic)
HE800DIM410	HE-DIM410	32 DC Inputs (12/24vdc, pos/neg logic)
HE800DQM202	HE-DQM202	8 Relay Outputs (250vac, 30vdc, 4.0A)
HE800DQM902	HE-DQM902	20 Relay Outputs (250vac, 30vdc, 2.5A)
HE800DQM306	HE-DQM306	16 DC Outputs (12/24vdc, 0.5A pos logic with ESCP)
HE800DQM406	HE-DQM406	32 DC Outputs (12/24vdc, 0.5A pos logic with ESCP)

Metal	Plastic	SmartStack Analog Input Modules
HE800ADC020	HE-ADC020	2 channel Analog Inputs, Current (0-20mA, +/-20mA)
HE800ADC120	HE-ADC120	4 channel Analog Inputs, Current (0-20mA, +/-20mA)
HE800ADC010	HE-ADC010	2 channel Analog Inputs, Voltage (0-5vdc, +/-5vdc, 0-10vdc, +/-10vdc)
HE800ADC110	HE-ADC110	4 channel Analog Inputs, Voltage (0-5vdc, +/-5vdc, 0-10vdc, +/-10vdc)
HE800ADC920	HE-ADC920	12 channel Analog Inputs (4-20mA, 0-5vdc, thermistor) ch-by-ch selectable
HE800THM000	HE-THM000	2 channel Thermocouple Inputs (J, K, T, E, C, R, S, +/-25mV, +/-50mV, +/-100mV)
HE800THM100	HE-THM100	4 channel Thermocouple Inputs (J, K, T, E, C, R, S, +/-25mV, +/-50mV, +/-100mV)
HE800THM200	HE-THM200	8 channel Thermocouple Inputs (J, K, T, E, C, R, S, +/-25mV, +/-50mV, +/-100mV)
HE800RTD000	HE-RTD000	2 channel RTD Inputs (Pt-100, Pt-200, Pt-500, Pt-1000)
HE800RTD100	HE-RTD100	4 channel RTD Inputs (Pt-100, Pt-200, Pt-500, Pt-1000)

Metal	Plastic	SmartStack Analog Output Modules
HE800DAC002	HE-DAC002	2 channel Analog Outputs, Current (4-20mA)
HE800DAC102	HE-DAC102	4 channel Analog Outputs, Current (4-20mA)
HE800DAC001	HE-DAC001	2 channel Analog Outputs, Voltage (+/- 10vdc)
HE800DAC101	HE-DAC101	4 channel Analog Outputs, Voltage (+/- 10vdc)
HE800DAC106	HE-DAC106	4 channel Analog Outputs, Sourcing (0-20mA)
HE800DAC202	HE-DAC202	8 channel Analog Outputs, Current (0-20mA, +/- 10vdc) ch-by-ch selectable

Metal	Plastic	SmartStack Mixed Discrete and Analog Modules
HE800MIX111	HE-MIX111	2 channel Voltage (+/- vdc) Inputs, 2 channel Voltage (+/-10vdc) Outputs
HE800MIX122	HE-MIX122	2 channel Current (+/- 20mA) Inputs, 2 channel Current (0-20mA) Outputs
HE800MIX126	HE-MIX126	12-bit, 2 channel Current (0-20mA) Inputs, 2 channel Current sourcing (0-20mA) Outputs
HE800MIX211	HE-MIX211	14-bit ISOLATED, 4 channel Voltage (+/-10vdc) Inputs, 14-bit ISOLATED 2 channel Voltage (+/-10vdc) Outputs
HE800MIX901	HE-MIX901	8 DC Inputs (12/24vdc), 8 DC Outputs (12/24vdc, 0.5A pos. logic with ESCP) and 4 channels Analog Inputs, voltage (+/-10vdc), 12 bit; 2 channels Analog Outputs, voltage (+/- 10vdc)
HE800MIX902	HE-MIX902	8 DC Inputs (12/24vdc), 8 DC Outputs (12/24vdc, 0.5A pos. logic with ESCP) and 4 channels Analog Inputs, current (0-20ma, 4-20ma), 12 bit; 2 channels Analog Outputs, current (4-20ma)
HE800MIX906	HE-MIX906	8 DC Inputs (12/24vdc), 8 DC Outputs (5/12/24vdc, 0.5A pos. logic with ESCP) and 4 channels Analog Inputs, current (0-20ma, 4-20ma), 12 bit; 2 channels Analog Outputs, current sourcing (4-20ma)
HE800MIX912	HE-MIX912	8 DC Inputs (12/24vdc), 8 DC Outputs (12/24vdc, 0.5A pos. logic with ESCP) and 4 ISOLATED (1000V) channels Analog Inputs, current (0-20ma, 4-20ma), 12 bit; 2 channels ISOLATED (1000V) Analog Outputs, current (4-20ma)
HE800MIX963	HE-MIX963	Temperature Controller I/O Board. 4 temperature Inputs (RTD/Thermocouple) selectable ch-by-ch, 2 channels Analog Outputs, current (4-20mA), 2 Relay Outputs (250vac, 30vdc, 10A), 2-SSR Drive Outputs

Metal	Plastic	SmartStack I/O Expansion Module
HE800FOX100	Not Available	SmartStack I/O Expansion Module. Interfaces to fiber optic FOX I/O System. Order fiber optic cables separately. Can only be used with OCSI10, OCS210, RCSI16, RCS250, or OCS250 models.

Many I/O
Options

Fieldbus
Networks

Ethernet
Communication



Plastic SmartStack I/O

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