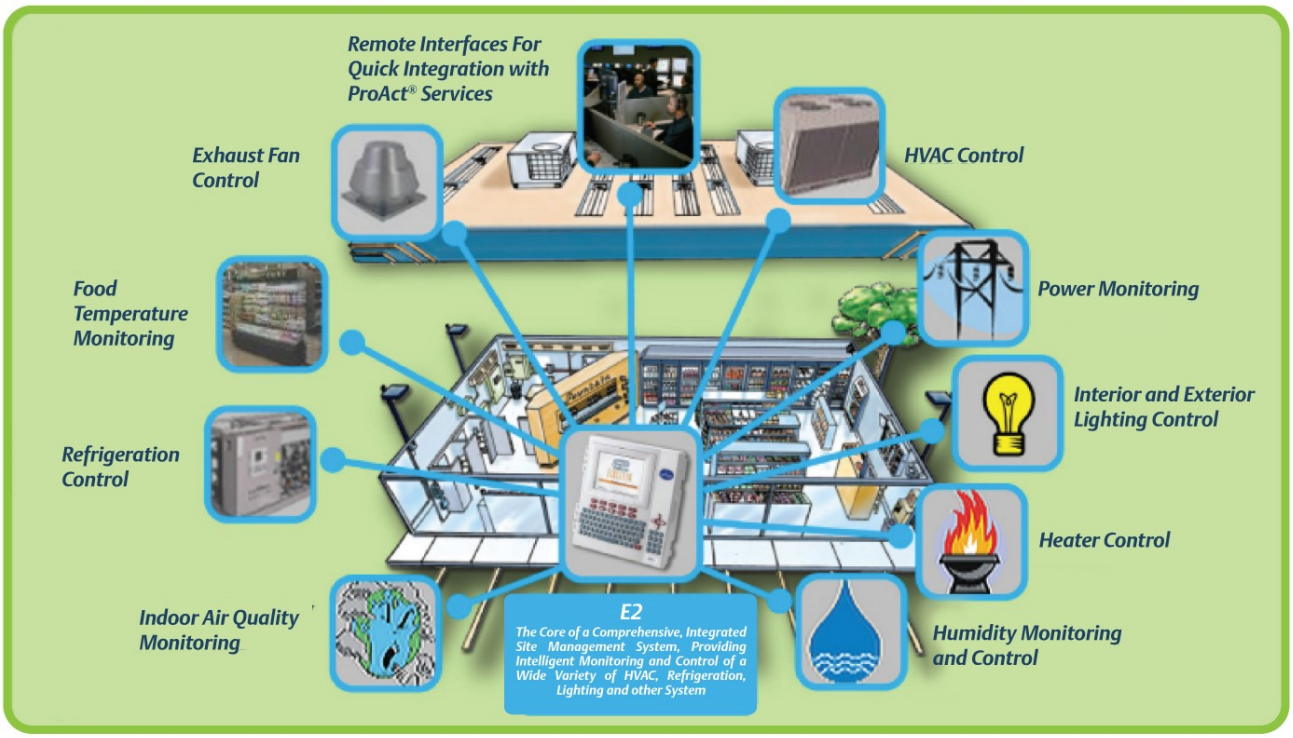
E2 Application Matrix

Product Information Sheet



Important Note:

The tables in the following pages are designed to give a general overview of the application capabilities of the E2 Controller.
This update includes additional devices enabled on different E2 versions, which may vary by firmware release.

Customers are cautioned that the figures in each cell of the following tables may only be interpreted as a general rule-of-thumb number. Values, where appearing in any cell, are intended to represent the designated maximum number for particular application types (as shown in rows) for each E2 model/series (as shown in columns), but independent of other application types. In other words, these figures are not indicative of the maximum number of combined applications that can be read by a single E2 controller.

The E2 is designed (and required) to handle a combination of multiple applications at the same time. The extent of such combinations that can be added to each E2 controller should only be determined by a qualified Emerson support specialist and will be governed by customized store requirements. In general, just as with computers, each additional input/memory requirement imposed on the Site Supervisor would reduce the memory available for other applications.

Application		RX Models			BX Models		CX Models		
		RX-100	RX-300	RX-400	BX-300	BX-400	CX-100	CX-300	CX-400
Ethernet Support		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Echelon Support		No	Yes	Yes	Yes	Yes	No	Yes	Yes
AHU					6	8	4	6	6
Analog Combiner			128	128	128	128	64	128	128
Analog Import Point			64	64	64	64			
Analog Sensor Control		24	64	72	64	72	12	24	48
Anti-sweat		8	16	64	16	48	4	8	16
ARTC/RTU					32	32		32	32
Boiler					2	2		2	2
Case Control Circuit			48	64				12	24
Condenser		1	1	2					1
Copeland Scroll - K5 Refrigeration Compressor (Lrg Ref Scroll)	E2E	31	31	31					31
	E2		31	31					31
CoreSense Comm	E2E				31	31	31	31	31
	E2								
CT Drive			16	16	16	16		16	16s
Demand Control					2	2	1	1	1
Digital Combiner			128	128	128	128	64	128	128
Digital Sensor Control		24	64	72	64	72	12	24	48
E2 Alarm Panel		7	7	7	7	7	7	7	7
Eng. Unit Converter		4	128	128	12	128	64	128	128
Energy Meter		30	30	30	30	30	30	30	30
Enhanced Suction Control**		4	4	4					4
Facility Status Display		7	7	7	7	7	7	7	7
Flexible Combiner		64	128	128	128	128	64	128	128
Heat/Cool Control			16	16	16	32	4	6	8
Holiday Schedule		4	64	64	64	64	8	16	32
HVAC Simulator			16	16	16	16			1
HVAC Zone					32	40	4	6	12
Impulse			48	64					
Irrigation							2	2	2
Lighting Control					24	48	6	24	48
Logging Group		8	32	32	32	32	8	32	32
Loop/Sequence Control		4	16	24	16	28	8	16	28
Modular Chiller Control*			1	2					
Onboard IO		1	1	1	1	1	1	1	1
Performance Alert	E2E	63	63	63					63
	E2		63	63					63
Power Monitoring		1	16	16	32	64	2	8	16

Table 1 - E2 Supported Applications

Pulse Accumulator			16	16	32	64	4	8	16
Rack Simulator			4	4					1
RMS Asset		99	99	99	99	99	99	99	99
Standard Circuit		48	48	64			6	12	32
Standard Suction Control**		4	4	4					4
TD Condenser Fan Control		4	64	64	16	28	8	16	28
TD3 Controller			99	99				99	99
Time Schedule		4	64	64	64	64	8	16	32
Wireless Module		99	99	99	99	99	99	99	99
XM Circuit	E2E		48	64				12	24

Table 1 - E2 Supported Applications

**Supported in E2 Versions 2.81F01 or higher*

***The number shown for the E2 controllers indicates the total number of suction group applications available. A controller can support any combination of standard suction groups and enhanced suction groups that do not exceed the total number for either type. For example, a RX-100 supports two (2) Enhanced Suction Controls and two (2) Standard Suction Controls (a total of 4) or three (3) Enhanced Suction Controls and one (1) Standard Suction Control (a total of 4).*

E2 I/O Network (RS-485)

Specified wiring: Belden #8761 (non-plenum), Belden #82761 and #88761 (plenum).

Board Type	RX Models			BX Models		CX Models		
	RX-100	RX-300	RX-400	BX-300	BX-400	CX-100	CX-300	CX-400
4AO	2	16	16	16	16	2	16	16
8RO	16	32	32	32	32	16	32	32
8DO	4	16	16	16	16	4	16	16
16AI	16	16	16	16	16	16	16	16
CCB*		99	99				99	99
Cutler Hammer Breaker Panel (Gateway)	Simulated As 16AI Points							
DFMC Controller (Gateway)		199	199					
IRLDS*	1	16	16	16	16	1	16	16
MRLDS (Gateway)*	24	24	24	24	24	24	24	24
WCC (Gateway)		199	199					
WPK (Gateway)		20	20					
WTPK (Gateway)		20	20					
MultiFlex CUB		31	31				31	31
MultiFlex ESR		31	31				31	31
MultiFlex PAK		16	16					
MultiFlex RCB				64	64		32	32
MultiFlex RTU/ARTC				32	32		32	32

Table 2 - E2 I/O Network (RS-485)

** Indicates an obsolete item. For customer information only.*

MODBUS Network (RS-485)

(Specified wiring: Belden 8641(24 AWG, 300V, Part numbers 135-8641); Belden 8761 (22 AWG, 300 V, not stocked by Emerson); or a 600V-shielded 22 AWG equivalent, part number 135-0600) supporting a maximum cable distance of 4,000 ft (1,219 m) between the E2 and end-device. Belden 9855 may be used as an alternative in noisy environments, and is not recommended in other situations.

Emerson MODBUS Support (For E2 Versions 2.80 and higher**)									
Board Type		RX Models			BX Models		CX Models		
		RX-100	RX-300	RX-400	BX-300	BX-400	CX-100	CX-300	CX-400
CC Thermostat*					32	64	8	32	64
Control Link® RSC*			99	99	99	99	10	99	99
Control Link® CD*			99	99	99	99	6	99	99
Control Link® ACC		16	63	63	16	48	8	16	16
Control Techniques VFD			16	16	16	16		16	16
Copeland CoreSense Protection (Discus)	E2E	63	63	63					63
	E2		63	63					63
Copeland Scroll - K5 Refrigeration Compressor (Lrg Ref Scroll)	E2E	31	31	31					31
	E2		31	31					31
Eaton Breaker Panel (Licensed)			8	8	8	8		8	8
Emerson Power Meter		30	30	30	30	30	30	30	30
ISD 2.X CoreSense Diagnostics	E2E	63	63	63					63
	E2		63	63					63
iPro DAC					32	50		32	50
MRLDS*		24	24	24	24	24	24	24	24
MRLDS-250	E2E	1	15	15	15	15	1	15	15
Performance Alert™	E2E	63	63	63					63
	E2		63	63					63
RLDS		1	15	15	15	15	1	15	15
Square-D Breaker Panel MODBUS (Licensed)			8	8	8	8		8	8
Wireless GW (Gateway)		1	1	1	1	1	1	1	1
XR35CX		99	99	99	99	99	99	99	99
XR75CX		99	99	99	99	99	99	99	99
XEV12D		99	99	99	99	99	99	99	99
XEV22D		99	99	99	99	99	99	99	99
XM670K		99	99	99	99	99	99	99	99
XM678D		99	99	99	99	99	99	99	99
XM679K		99	99	99	99	99	99	99	99
XR75CX Case Display		99	99	99	99	99	99	99	99
XC643CX		99	99	99	99	99	99	99	99

Table 3 - MODBUS Network (RS-485) Support for E2 Versions 2.80 and higher

** *Emerson's E2 Version 2.80 supports two independent MODBUS networks - so the user can have duplicate MODBUS addresses on the twin networks. However, the total number of devices in both networks, combined, cannot exceed 99*

Echelon Network (FTT-10)

Specified wiring: Level 4, twisted pair, stranded, shielded cable in plenum & non-plenum varieties; part numbers: 135-2300 (non-plenum) and 135-2301 (plenum).

Board Type	RX Models			BX Models		CX Models		
	RX-100	RX-300	RX-400	BX-300	BX-400	CX-100	CX-300	CX-400
TD3-Case Display*		99	99				99	99
CC100-Case Suction		99	99				99	99
CC100-Liquid Control		99	99				99	99
CS100-Ckt Suction		99	99				99	99
ESR8-Board*		99	99				99	99
EC2-29x Control		35	35				35	35
EC2-39x Control		35	35				35	35
RTU Controller***				25	25		25	25
VAV Controller***				25	25		25	25

Table 4 - Echelon Network (FTT-10)

* *Indicates an obsolete item. For customer information only.*

*** *For a VAV system, a maximum of 25 nodes (such as an Echelon device) can be connected to one controller. A maximum of 16 VAV Controllers can be connected to one (1) RTU Controller. An Emerson Application Engineer should review the VAV control requirements for all VAV systems.*

Ethernet Network

Specified wiring: Cat 5/5e Cable, if not run near sources of electrical noise; where running through sources of electrical noise, shielded Cat5e cable (Belden 1533 plenum or 1533R for non-plenum with shielded RJ45 connectors); in any case, length of cable should not exceed 328 feet (100 meters).

Board Type	RX Models			BX Models		CX Models		
	RX-100	RX-300	RX-400	BX-300	BX-400	CX-100	CX-300	CX-400
Facility Status Display (HTTP)	7	7	7	7	7	7	7	7
EKC-514 (SNMP)	80	80	80	80	80	80	80	80

Table 5 - Ethernet Network

Other Network Devices

Board Type	RX Models			Models		CX Models		
	RX-100	RX-300	RX-40	BX-300	BX-400	CX-100	CX-300	CX-400
Intelligent Store™ Discus® 1.0* Compressor (NCI-485)		64	64					64
IMC/Prodigy (RS-485 S-Bus) (Licensed)				31	31	31	31	31

Table 6 - Other Network Devices

* *Indicates an obsolete item. For customer information only.*