GE
Digital Energy

D20 Combination Module

Overview

The D20 Combination module is composed of two detachable modules, WESTERM D20 C and WESDAC D20 C. The bottom module, WESTERM D20 C, is where all field wirings are terminated. The top module, WESDAC D20 C, processes the data acquired and communicates this to the main D20 processor, see Figure 2.

The D20C is an I/O module that is typically used for applications where small point-counts are desired. It supports Status Indication, Control Outputs, Analog Inputs and Outputs.

The D20C can be configured with:

- 16 digital inputs
- 8 momentary or dual function trip/close control outputs
- Optional 16 analog inputs
- Optional 8 analog inputs and 8 analog outputs

The D20C uses a faster clock speed to meet the increased processing power demand.

Interposing relays may be supplied using a WESTERM D20KI, as with the D20K.

A Local/Remote switch is provided to turn off relay coil power, and put the module off-line. An on/off-line indication is sent to the D20 main processor, which is available to the host as a pseudo-status.

Two DB 9 connectors are provided to allow daisy chaining of the D.20 Link. This link provides the communication channel over which the main D20 CPU processor can communicate with the WESDAC D20 C. Power for the WESDAC D20 C is also provided over the same cable assembly.

A single DB 9 connector is provided for the WESMAINT D20 maintenance port. This port allows communications between a VT 100 terminal or emulator, and the WESDAC D20 A.

The address jumper block for the WESDAC D20 A is located on the WESTERM.

Efficient, Cost Effective I/O Solutions

- The I/O modularity allows for efficient distributed I/O installations - minimizing wiring and enclosure requirements; this eliminates panel and reduces cost
- The active/passive design of the WESDAC/ WESTERM I/O modules allows users to quickly test, commission, and troubleshoot via hot swappable WESDAC modules, without disturbing wiring connections ; this significantly speeds up and simplifies maintenance activities

Ease of Use

- To first time users, both the software configuration setup and hardware installations are trivial; this makes it simple to install and maintain the combination module

Flexible and Reliable Operations

- The combination of digital input/output and analog input/output options makes this module versatile
- D20C supports up to 16 analog inputs and 8 analog outputs. It supports digital input and output while ensuring the secure operation of the control output interface by validating the initiated and timed control request from the D20/D200 Substation controller
- I/O modules are available to be ordered with either a DNP3 communication protocol option or a Standard/ Redundant D.20 link option. The D.20 link is a GE proprietary protocol

imagination at work

Distributed I/O Architecture

The D20 Remote Terminal Unit (RTU) design is based on a distributed-processing architecture including real-time data acquisition and control software. These I/O modules can be located close to the primary equipment being monitored and controlled as they receive and send data back to the master D20 main processor.

The I/O modules are intelligent modules that contain on-board microprocessors and are configured as slave devices to the D20 main processor. In the Figure 1 pictorial setup, specific I/O processing is distributed throughout the D20 RTU to the appropriate I/O modules.

The I/O modules support two communication protocols: (1) DNP3 protocol, and (2) high speed, high-level data link controller (D.20 Link) in the form of poll and response messages protocol. The peripheral modules have serial communication ports and various types of field connections.

The hardware construction of each remote I/O module type is similar (see Figure 2.)

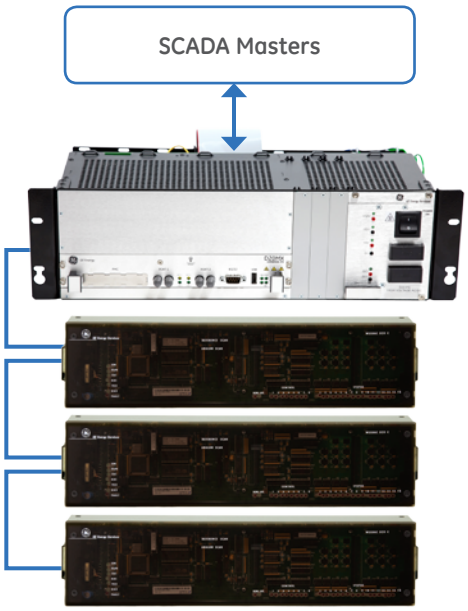
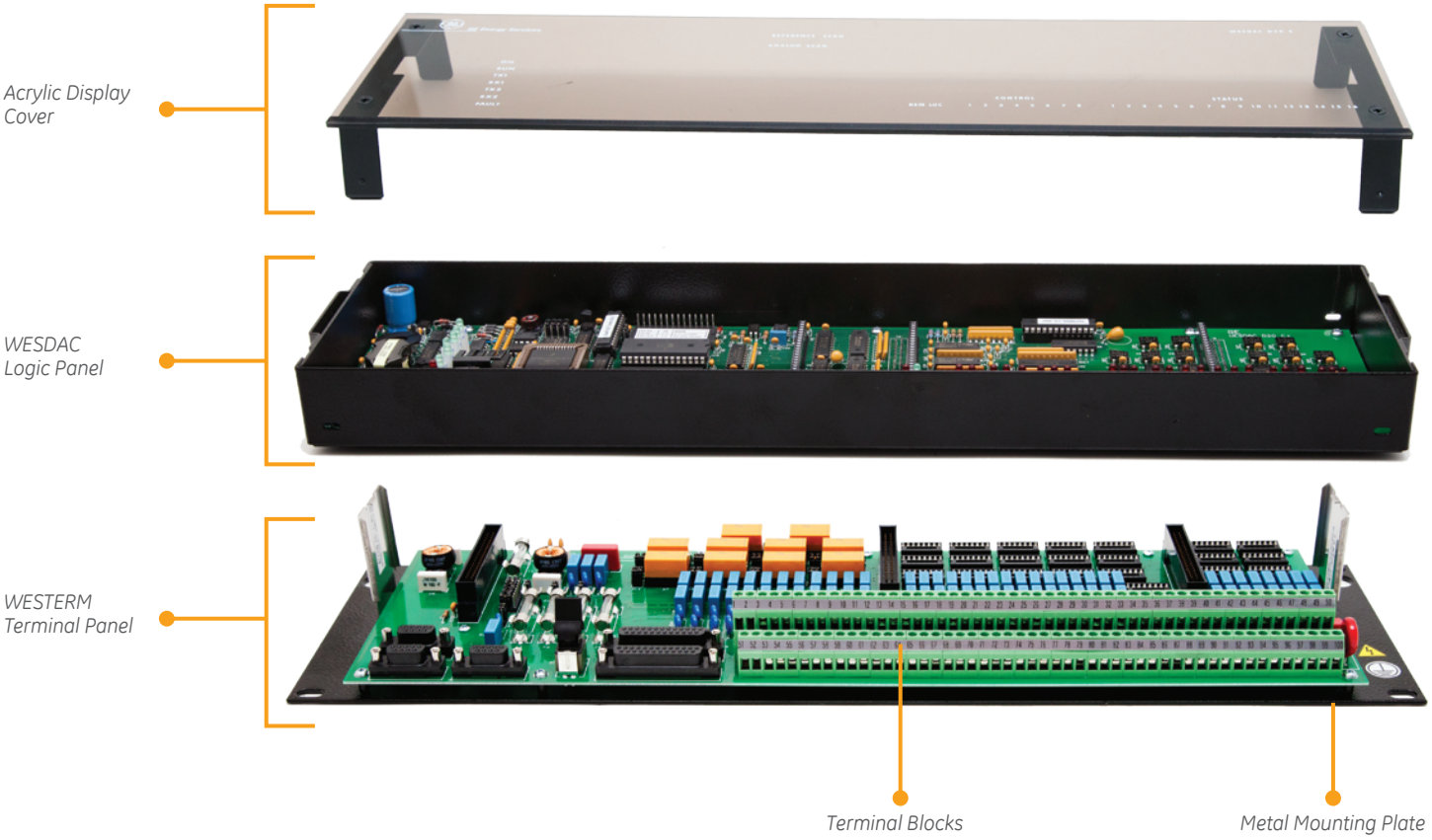


Figure 1: Simple architecture of I/O modules communicating to the D20 RTU

Figure 2: Architecture of I/O logic and termination panels



Analog Add-On Options

The analog input/output are available as add-on options for the D20C peripheral. They are mounted on the D20 C WESDAC. See Table 1 below.

Table 1: D20C Daughter Card Options

D20C PERIPHERAL	DIGITAL INPUTS	CONTROL OUTPUTS	ANALOG INPUTS	ANALOG OUTPUTS
D20C	16	8	-	-
D20C with D20 C1 Daughter Board	16	8	16	-
D20C with D20 C2 Daughter Board	16	8	8	8

Termination Types

D20 Control output module can be ordered with the following field termination options:

- **Compression:**
  Field wiring is terminated directly onto board-mounted screw terminal compression blocks (#12 AWG [2.05mm] max, blade screwdriver - 0.6 x 3.5 x 100 mm) on the D20 I/O Peripheral
- **DB25:**
  Field wiring is terminated onto the D20 I/O peripheral through DB25 connectors
- **Compression Disconnect:**
  Field wiring is terminated onto plug-on terminator blocks (#12 AWG [2.05mm] max, blade screwdriver - 0.6 x 3.5 x 100 mm), which then mate with board-mounted headers on the D20 I/O Peripheral

Technical Specifications

For a more complete description on the status, analog and control features of the D20 C, refer to the respective brochures of the D20S, D20A and D20K modules.

Table 2: D20C Specifications

ITEM	DESCRIPTION
Processor	8 bit Freescale 68HC11 MPU
Clock	2 MHz MPU clock
Memory	• 24 KB EPROM • 32 KB static RAM • 512 bytes EEPROM
ANALOG INPUTS	
Physical	Plug in daughter board for 16 bipolar, differential inputs
Input Adapters	Refer to the Index for a list of available input adapters.
Accuracy	±0.05% (voltage), ±0.1% (current)
Temperature Coefficient	±10 ppm per °C
Resolution	14 bits plus sign
Conversion Rate	• 275 ms for 16 inputs @ 60 Hz • 328 ms for 16 inputs @ 50 Hz
Dynamic Range of Converter	125% of normalized full scale inputs
ANALOG INPUTS	
Input Impedance	44M Ohm ±5% (VDC)
Common Mode Rejection (60 Hz)	95 dB
Normal Mode Rejection (60 Hz)	60 dB
Over voltage Rating	±35 VDC (normal mode)
ANALOG INPUTS/OUTPUTS	
Physical	Plug-in daughter board for 8 unipolar or bipolar (voltage only) outputs or 8 unipolar current outputs, and 8 bipolar inputs @ ±5 V (see Analog Inputs above)
Output Ranges	• 0 - 5, 0 - 10, ±5, ±10 V • 0 - 1, 0 - 5, 0 - 10, 0 - 20 mA
Accuracy	0.1% (voltage), 0.15% (current)
Resolution	12 bits plus sign
Maximum Output	5 kohms @ 5 V out
STATUS INPUTS	
Physical	16 optically isolated inputs in two groups of 8. Inputs in one group will share a common return and contact wetting.
Contact Wetting	±12, ±24, ±48 or ±125 VDC
Current Burden	±3 to ±6 mA per input
Scan Rate	1.0 ms
Debounce	Selectable 1 to 255 ms
SOE Time Resolution	1.0 ms
Overload Rating	500 VDC (common mode to GND)
CONTROL OUTPUTS	
Physical	8 relays plus two Master Trip/Close relays
Output Configurations	• 8 T/C pairs • 6 T/C + 1 R/L pairs • 4 T/C + 2 R/L pairs • 2 T/C + 3 R/L pairs • 4 R/L pairs • 8 isolated Form C contact outputs
Contact Duration	Programmable 1 to 215 ms in 1 ms intervals or 1 to 215 s in 1 s intervals (protocol dependent)
Contact Rating	60 W max, 3 A max, 220 VDC max (1 Form-C or -A contact)
Coil Status Check	Every 500 µs
Switches	Local enable/disable switch
Component Isolation Rating	1500 Vrms
Dielectric Rating	1000 VDC
D.20 Link Ports	2
Maintenance Port	9600 baud, RS-232
Power Requirements	20-60 VDC, 5 W typical; 11 W full load with 24 V contact wetting
Size	• D20C assembly: 19"" x 5.25"" x 2.5"" • D20C analog input & analog input/output daughter boards: 8.5"" x3"

Ordering

D20C System Components

D20C System Components Order Code

D20C -	*	*	*	*	*	*	*	*	*	Description	Equivalent Legacy #
D20C Termination Options	1									D20C LV (20-60 VDC or D.20 Power) Compression Termination & DB25 For Interposer Relays	517-0169
	2									D20CD LV (20-60 VDC or D.20 Power) DB25 Termination	517-0180
	3									D20CB LV (20-60 VDC or D.20 Power) Barrier Termination & DB25 For Interposer Relays	517-0326
	4									D20CX LV (20-60 VDC or D.20 Power) Compression Disconnect Termination & DB25 For Interposer Relays	517-0217
	5									D20CDI 48V LV (20-60 VDC or D.20 Power) Isolated Commons & DB25 For Interposer Relays	517-0333
	6									D20CDI 130V LV (20-60 VDC or D.20 Power) Isolated Commons & DB25 For Interposer Relays	517-0263
	8									D20C4Z (HV) - 48V Compression Termination	517-0239
	9									D20C4Z (HV) - 110V (40-150VDC) Compression Termination	517-0253
	A									D20C4Z2 (HV) - 220V (40-150VDC) Compression Termination	517-0267
	B									D20C4Z2 (HV) - 48V (40-150VDC) Compression Termination , Analog Outputs	517-0365
D20C Input/Output Option		1								D20C - 16 DI, 8 DO	
		2								D20C1 - 16 DI, 8DO, 16 AI	
		3								D20C2 - 16 DI, 8 DO, 8 AI, 8 AO	
		4								D20CHV - 16 DI, 8 DO	
		5								D20C1HV - 16 DI, 8 DO, 16 AI	
		6								D20C2HV - 16 DI, 8 DO, 8 AI, 8 AO	
D20C Status Wetting Options			U							Status Wetting Not Required [Available for SDI, CDI, SZ & C4Z Only]	
			1							12V Status Wetting	
			2							24V Status Wetting	
			3							48V Status Wetting	
			4							130V Status Wetting	
D20C First Group of Analog Adapters Options (8 AI)				U						None	
				1						Voltage Input Adaptor +/- 1V +/- 5V, +/- 10V DC (set of 8)	
				2						0.1 mA / 5V Current Input Adaptor (set of 8)	
				3						0.3 mA / 5V Current Input Adaptor (set of 8)	
				4						0.5 mA / 5V Current Input Adaptor (set of 8)	
				5						1 mA / 5V Current Input Adaptor (set of 8)	
				6						1 mA / 5V Current Input Adaptor (High Precision) (set of 8)	
				7						1.1 mA / 5V Current Input Adaptor (set of 8)	
				8						1.25 mA / 5V Current Input Adaptor (set of 8)	
				9						1.5 mA / 5V Current Input Adaptor (set of 8)	
				A						2 mA / 5V Current Input Adaptor (set of 8)	
				B						2 mA / 5V Current Input Adaptor (High Precision 0.01%) (set of 8)	
				C						2.5 mA / 5V Current Input Adaptor (set of 8)	
				D						2mA / 1V Current Input Adaptor (set of 8)	
				E						12.8mA / 5V Current Input Adaptor (set of 8)	
				F						20mA / 5V Current Input Adaptor (set of 8)	
				G						50mA / 5V Current Input Adaptor (set of 8)	

D20C System Components Order Code (continued)

D20C - * * * * * * * * *		Description	Equivalent Legacy #
D20C Second Group of Analog Adapters (8 AI or 8 A0)	U	None	
	1	Voltage Input Adaptor +/- 1V +/- 5V, +/- 10V DC (set of 8)	
	2	0.1 mA / 5V Current Input Adaptor (set of 8)	
	3	0.3 mA / 5V Current Input Adaptor (set of 8)	
	4	0.5 mA / 5V Current Input Adaptor (set of 8)	
	5	1 mA / 5V Current Input Adaptor (set of 8)	
	6	1 mA / 5V Current Input Adaptor (High Precision) (set of 8)	
	7	1.1 mA / 5V Current Input Adaptor (set of 8)	
	8	1.25 mA / 5V Current Input Adaptor (set of 8)	
	9	1.5 mA / 5V Current Input Adaptor (set of 8)	
	A	2 mA / 5V Current Input Adaptor (set of 8)	
	B	2 mA / 5V Current Input Adaptor (High Precision 0.01%) (set of 8)	
	C	2.5 mA / 5V Current Input Adaptor (set of 8)	
	D	2mA / 1V Current Input Adaptor (set of 8)	
	E	12.8mA / 5V Current Input Adaptor (set of 8)	
	F	20mA / 5V Current Input Adaptor (set of 8)	
	G	50mA / 5V Current Input Adaptor (set of 8)	
	H	Voltage Output Adaptor (set of 8)	
	I	1 mA Current Output Adaptor (set of 8)	
	J	5 mA Current Output Adaptor (set of 8)	
	K	10 mA Current Output Adaptor (set of 8)	
	L	20 mA Current Output Adaptor [0-20; 4-20] (set of 8)	
D20C PCommon Option	U	None	
	1	PCommon2 300	
	2	PCommon2 221	
	3	PCommon2 209	
	4	PCommon2 305	
D20C Cable Option	U	Cable Not Required	
	1	D.20 Cable 12 Inches Long	
	2	D.20 Cable 18 Inches Long	
	3	D.20 Cable 24 Inches Long	
	4	D.20 Cable 36 Inches Long	
	5	D.20 Cable 48 Inches Long	
	6	D.20 Cable 72 Inches Long	
	7	D.20 Cable 96 Inches Long	
	8	D.20 Cable 120 Inches Long	
D.20 Terminator Option	U	D.20 Terminator Not Required	
	1	D.20 Terminator (One Required per D.20 Link)	
D.20 Duct Panel	U	Duct Panel Not Required	
	1	Cable Duct Panel, Tie Wrap Connections	
	2	Two Cable Duct Panels, Tie Wrap Connections	
	3	Cable Duct Panel, No Through Holes	
	4	Two Cable Duct Panels, No Through Holes	
	5	Cable Duct Panel, Through Holes at Each End	
	6	Two Cable Duct Panels, Through Holes at Each End	

Please note

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Ordering

D20C Spare Components

D20C Spare Components Order Code

D20CS -	*	*	*	*	*	*	*	*	*	*	*	Description
D20C Type	U											None
	(T-1)											D20C LV (20-60VDC or D.20 Power) Compression Termination FOR DB25 for interposer relays
	(T-2)											D20CD LV (20-60VDC or D.20 Power) DB25 Termination
	(T-3)											D20 CB LV (20-60VDC or D.20 Power) Barrier Termination & DB25 For Interposer relays
	(T-4)											D20CX LV (20-60VDC or D.20 Power) Compression Disconnect Termination & DB25 for interposer relays
	(T-5)											D20C4Z2 HV - 48V DI Compression Disconnect Termination
	(T-6)											D20CDI LV (20-60VDC or D.20 Power) 48V Isolated Common & DB25 for interposer relays
	(T-7)											D20CDI LV (20-60VDC or D.20 Power) 130V Isolated Common & DB25 for interposer relays
	(T-8)											D20C4Z HV - 48V DI Compression Termination, Analog Input Only
	(T-9)											D20C4Z HV - 110V DI Compression Termination, Analog Input Only
	(T-A)											D20C4Z2 HV 24V DI Compression Termination, Analog Input & Output Allowed
	(T-C)											D20C4Z2 HV Compression Disconnect Termination, 48V DI
	(T-D)											D20C4Z2 HV Compression Disconnect Termination, 220V DI
	(D-1)											WESDAC D20C LV
	(D-2)											WESDAC D20C HV
	(3-1)											WESDAC D20C LV, DNP3 Communications
	(3-2)											WESDAC D20C HV, DNP3 Communications
D20C Input/Output Option		U										None
		1										D20C0 - 16 DI, 8 DO
		2										D20C1 - 16 DI, 8DO, 16 AI
		3										D20C2 - 16 DI, 8 DO, 8 AI, 8 AO
		4										D20CHV - 16 DI, 8 DO
		5										D20C1HV - 16 DI, 8 DO, 16 AI
		6										D20C2HV - 16 DI, 8 DO, 8 AI, 8 AO
		8										WESTERM Configuration for AI (Req for D20C4Z2)
		9										WESTERM Configuration for AI & AO (Req for D20C4Z2)
		A										WESTERM 16DI, 8DO, 16AI [540-0205] (WESTERM)
		B										WESTERM 16DI, 8DO, 8AI, 8AO [540-0227] (WESTERM)
D20C Status Wetting Options			U									None
			1									12V Status Wetting
			2									24V Status Wetting
			3									48V Status Wetting
			4									130V Status Wetting [LV] Only
			5									130V Status Wetting [HV] Only
D20C First Group of Analog Adapters Options (8 AI)				U								None - Adapter not required
				1								Voltage Input Adaptor +/- 1V +/- 5V, +/- 10V DC (set of 8)
				2								0.1 mA / 5V Current Input Adaptor (set of 8)
				3								0.3 mA / 5V Current Input Adaptor (set of 8)
				4								0.5 mA / 5V Current Input Adaptor (set of 8)
				5								1 mA / 5V Current Input Adaptor (set of 8)
				6								1 mA / 5V Current Input Adaptor (High Precision) (set of 8)
				7								1.1 mA / 5V Current Input Adaptor (set of 8)
				8								1.25 mA / 5V Current Input Adaptor (set of 8)
				9								1.5 mA / 5V Current Input Adaptor (set of 8)
				A								2 mA / 5V Current Input Adaptor (set of 8)
				B								2 mA / 5V Current Input Adaptor (High Precision 0.01%) (set of 8)
				C								2.5 mA / 5V Current Input Adaptor (set of 8)
				D								2mA / 1V Current Input Adaptor (set of 8)
				E								12.8mA / 5V Current Input Adaptor (set of 8)
				F								20mA / 5V Current Input Adaptor (set of 8)
				G								50mA / 5V Current Input Adaptor (set of 8)

D20C Spare Components Order Code (continued)

D20CS - * * * * * * * * * * *	Description
D20C Second Group of Analog Adapters (8 AI or 8 AO) U	None - Adapter not required
1	Voltage Input Adaptor +/- 1V +/- 5V, +/- 10V DC (set of 8)
2	0.1 mA / 5V Current Input Adaptor (set of 8)
3	0.3 mA / 5V Current Input Adaptor (set of 8)
4	0.5 mA / 5V Current Input Adaptor (set of 8)
5	1 mA / 5V Current Input Adaptor (set of 8)
6	1 mA / 5V Current Input Adaptor (High Precision) (set of 8)
7	1.1 mA / 5V Current Input Adaptor (set of 8)
8	1.25 mA / 5V Current Input Adaptor (set of 8)
9	1.5 mA / 5V Current Input Adaptor (set of 8)
A	2 mA / 5V Current Input Adaptor (set of 8)
B	2 mA / 5V Current Input Adaptor (High Precision 0.01%) (set of 8)
C	2.5 mA / 5V Current Input Adaptor (set of 8)
D	2mA / 1V Current Input Adaptor (set of 8)
E	12.8mA / 5V Current Input Adaptor (set of 8)
F	20mA / 5V Current Input Adaptor (set of 8)
G	50mA / 5V Current Input Adaptor (set of 8)
H	Voltage Output Adaptor (set of 8)
I	1 mA Current Output Adaptor (set of 8)
J	5 mA Current Output Adaptor (set of 8)
K	10 mA Current Output Adaptor (set of 8)
L	20 mA Current Output Adaptor [0-20; 4-20] (set of 8)
D.20 Link Options U	None
S	Standard D.20 Link
L	WESDAC Redundant D.20 Link & Dual Power Supply option
R	WESTERM Redundant D.20 Link & Dual Power Supply option (540-0313)
D20C PCommon2 U	None
1	PCommon2 221
2	PCommon2 305
D20C DNP3 Digital Input Points Config Option U	None
A	Single Point
B	Double Point
C	Transition Counter
D	Form C Counter
D20C DNP3 I/O Analog Input Frequency Config Option U	None
A	50 Hz Configuration
B	60 Hz Configuration
D20C DNP3 Analog Output Config Option U	None
A	Unipolar, 5V Analog Outputs
B	Bipolar, 5V Analog Outputs
C	Unipolar, Current Analog Outputs
D20C Daughter Card Options U	None
A	WESDAC D20C LV Wesmaint Interface card
B	WESDAC D20C HV Wesmaint Interface card [540-0209]
C	WESDAC D20C LV 8 Analog Input / 8 Analog Output expansion card [540-0166]
D	WESDAC D20C LV 16 Analog Input expansion card [540-0159]
E	WESDAC D20C HV 16 Analog Input expansion card [540-0205]
F	WESDAC D20C HV 8 Analog Input / 8 Analog Output expansion card [540-0227]

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D20C Spare Cross-Reference

LEGACY PART NUMBER AND DESCRIPTION	SMART CATALOG NUMBER PREFIX AND DESCRIPTION
D20 COMBINATION WESTERM MODULES - LEGACY PART NUMBER	**D20 COMBINATION WESTERM MODULES - NEW PART NUMBER PREFIX**
(517-0169) - WESTERM D20C TYPE 1 VERSION 1	(D20CS-T-1) - D20C LV (20-60VDC or D.20 Power), Compression Termination & DB25 for Interposer relays
(517-0180) - WESTERM D20 CD	(D20CS-T-2) - D20CD LV (20-60VDC or D.20 Power), DB25 Termination
(517-0326) - WESTERM D20 CB	(D20CS-T-3) - D20CB LV (20-60VDC or D.20 Power), Barrier Termination & DB25 for Interposer relays
(517-0217) - WESTERM D20 CX W/TB PLUGS	(D20CS-T-4) - D20CX LV (20-60VDC or D.20 Power), Compression Disconnect Termination & DB25 for Interposer relays
(517-0333) - WESTERM D20 CDI, 48V	(D20CS-T-6) - D20CDI LV (20-60VDC or D.20 Power), 48V Isolated Common & DB25 for Interposer relays
(517-0263) - WESTERM D20 CDI, 130V	(D20CS-T-7) - D20CDI LV (20-60VDC or D.20 Power), 130V Isolated Common & DB25 for Interposer relays
(517-0239) - WESTERM D20 C4Z, 48V DI	(D20CS-T-8) - D20C4Z HV 48V DI Compression Termination Analog Input Only
(517-0325) - WESTERM D20 C4Z2, 48V DI	(D20CS-T-5) - D20C4Z HV 48V DI Compression DisconnectTermination
(517-0253) - WESTERM D20 C4Z 110V DI	(D20CS-T-9) - D20C4Z HV 110V DI Compression Termination Analog Input Only
(517-0362) - WESTERM D20 C4Z2 24V DI	(D20CS-T-A) - D20C4Z2 HV 24V DI Compression Termination Analog Input & Output Allowed
(517-0363) - WESTERM D20 C4Z2 WITH PLUGS, 48V DI	(D20CS-T-C) - D20C4Z2 HV 48V DI Compression Disconnect Termination
(517-0267) - WESTERM D20 C4Z2 (220V)	(D20CS-T-D) - D20C4Z2 HV 220V DI Compression Disconnect Termination
D20 COMBINATION WESDAC MODULES - LEGACY PART NUMBER	**D20 COMBINATION WESDAC MODULES - NEW PART NUMBER PREFIX**
(504-0002) - WESDAC D20C+	(D20CS-D-1) - WESDAC D20C LV
(504-0003) - WESDAC D20C HV	(D20CS-D-2) - WESDAC D20C HV
D20 COMBINATION DNP 3 MODULES - LEGACY PART NUMBER	**D20 COMBINATION DNP 3 MODULES - NEW PART NUMBER PREFIX**
(504-0302) - DNP I/O LV MODULE - COMBINATION	(D20CS-3-1)- WESDAC D20C LV, DNP3 Communications
(504-0303) - DNP I/O HV MODULE - COMBINATION	(D20CS-3-2)- WESDAC D20C HV, DNP3 Communications
D20 COMBINATION DIGITAL INPUT ADAPTER - LEGACY PART NUMBER	**D20 COMBINATION DIGITAL INPUT ADAPTER - NEW PART NUMBER**
(245-0031) - D20 C 12V Digital Input Adapter	(D20CS-U-U-U-1-U-U-U-U-U-U-U) - 12V Digital Input Adapter [245-0031]
(245-0030 (4x), 245-0029 (2x)) - D20 C 24V Digital Input Adapter	(D20CS-U-U-U-2-U-U-U-U-U-U-U) - 24V Digital Input Adapter [245-0030 (4x), 245-0029 (2x)]
(245-0004) - D20 C 48V Digital Input Adapter	(D20CS-U-U-U-3-U-U-U-U-U-U-U) - 48V Digital Input Adapter [245-0004]
(530-0133) - D20 C 130V Digital Input Adapter for LV	(D20CS-U-U-U-4-U-U-U-U-U-U-U) - 130V Digital Input Adapter for LV [530-0133]
(245-0012) - D20 C 220V Digital Input Adapter for HV	(D20CS-U-U-U-5-U-U-U-U-U-U-U) - 130V Digital Input Adapter for HV [245-0012]
D20 COMBINATION FIRST SLOT OF ANALOG ADAPTERS - LEGACY PART NUMBER	**D20 COMBINATION FIRST SLOT OF ANALOG ADAPTERS - NEW PART NUMBER**
(530-0004) - D20C Voltage Input Adapter	(D20CS-U-U-U-U-1-U-U-U-U-U-U) - Voltage Input Adapter [530-0004]
(530-0087) - 0.1mA to 5V Current Input Adapter	(D20CS-U-U-U-U-2-U-U-U-U-U-U) - 0.1mA to 5V Current Input Adapter [530-0087]
(530-0088) - 0.3mA to 5V Current Input Adapter	(D20CS-U-U-U-U-3-U-U-U-U-U-U) - 0.3mA to 5V Current Input Adapter [530-0088]
(530-0089) - 0.5mA to 5V Current Input Adapter	(D20CS-U-U-U-U-4-U-U-U-U-U-U) - 0.5mA to 5V Current Input Adapter [530-0089]
(530-0050) - 1 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-5-U-U-U-U-U-U) - 1 mA to 5V Current Input Adapter [530-0050]
(530-0090) - 1 mA to 5V Current Input Adapter [High Precision]	(D20CS-U-U-U-U-6-U-U-U-U-U-U) - 1 mA to 5V Current Input Adapter [High Precision] [530-0090]
(530-0091) - 1.1 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-7-U-U-U-U-U-U) - 1.1 mA to 5V Current Input Adapter [530-0091]
(530-0094) - 1.25 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-8-U-U-U-U-U-U) - 1.25 mA to 5V Current Input Adapter [530-0094]
(530-0095) - 1.5 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-9-U-U-U-U-U-U) - 1.5 mA to 5V Current Input Adapter [530-0095]
(530-0051) - 2 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-A-U-U-U-U-U-U) - 2 mA to 5V Current Input Adapter [530-0051]
(530-0108) - 2 mA to 5V Current Input Adapter [High Precision]	(D20CS-U-U-U-U-B-U-U-U-U-U-U) - 2 mA to 5V Current Input Adapter [High Precision] [530-0108]
(530-0086) - 2.5 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-C-U-U-U-U-U-U) - 2.5 mA to 5V Current Input Adapter [530-0085]
(530-0045) - 2mA to 1V Current Input Adapter	(D20CS-U-U-U-U-D-U-U-U-U-U-U) - 2mA to 1V Current Input Adapter [530-0045]
(530-0131) - 12.8 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-E-U-U-U-U-U-U) - 12.8 mA to 5V Current Input Adapter [530-0131]
(530-0052) - 20 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-F-U-U-U-U-U-U) - 20 mA to 5V Current Input Adapter [530-0052]
(530-0086) - 50 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-G-U-U-U-U-U-U) - 50 mA to 5V Current Input Adapter [530-0086]

D20C Spare Cross-Reference (continued)

LEGACY PART NUMBER AND DESCRIPTION	SMART CATALOG NUMBER PREFIX AND DESCRIPTION
D20 COMBINATION SECOND SLOT OF ANALOG ADAPTERS- LEGACY PART NUMBER	**D20 COMBINATION SECOND SLOT OF ANALOG ADAPTERS - NEW PART NUMBER**
(530-0004) - D20C Voltage Input Adapter	(D20CS-U-U-U-U-U-1-U-U-U-U-U) - Voltage Input Adapter [530-0004]
(530-0087) - 0.1mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-2-U-U-U-U-U) - 0.1mA to 5V Current Input Adapter [530-0087]
(530-0088) - 0.3mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-3-U-U-U-U-U) - 0.3mA to 5V Current Input Adapter [530-0088]
(530-0089) - 0.5mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-4-U-U-U-U-U) - 0.5mA to 5V Current Input Adapter [530-0089]
(530-0050) - 1 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-5-U-U-U-U-U) - 1 mA to 5V Current Input Adapter [530-0050]
(530-0090) - 1 mA to 5V Current Input Adapter [High Precision]	(D20CS-U-U-U-U-U-6-U-U-U-U-U) - 1 mA to 5V Current Input Adapter [High Precision] [530-0090]
(530-0091) - 1.1 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-7-U-U-U-U-U) - 1.1 mA to 5V Current Input Adapter [530-0091]
(530-0094) - 1.25 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-8-U-U-U-U-U) - 1.25 mA to 5V Current Input Adapter [530-0094]
(530-0095) - 1.5 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-9-U-U-U-U-U) - 1.5 mA to 5V Current Input Adapter [530-0095]
(530-0051) - 2 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-A-U-U-U-U-U) - 2 mA to 5V Current Input Adapter [530-0051]
(530-0108) - 2 mA to 5V Current Input Adapter [High Precision]	(D20CS-U-U-U-U-U-B-U-U-U-U-U) - 2 mA to 5V Current Input Adapter [High Precision] [530-0108]
(530-0086) - 2.5 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-C-U-U-U-U-U) - 2.5 mA to 5V Current Input Adapter [530-0086]
(530-0045) - 2mA to 1V Current Input Adapter	(D20CS-U-U-U-U-U-D-U-U-U-U-U) - 2mA to 1V Current Input Adapter [530-0045]
(530-0131) - 12.8 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-E-U-U-U-U-U) - 12.8 mA to 5V Current Input Adapter [530-0131]
(530-0052) - 20 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-F-U-U-U-U-U) - 20 mA to 5V Current Input Adapter [530-0052]
(530-0086) - 50 mA to 5V Current Input Adapter	(D20CS-U-U-U-U-U-G-U-U-U-U-U) - 50 mA to 5V Current Input Adapter [530-0086]
LEGACY PART NUMBER - OUTPUT ADAPTERS	**NEW PART NUMBER - OUTPUT ADAPTERS**
(530-0083) - Voltage Output Adapter	(D20CS-U-U-U-U-U-H-U-U-U-U-U) - Voltage Output Adapter [530-0083]
(530-0079) - 1mA Current Output Adapter	(D20CS-U-U-U-U-U-I-U-U-U-U-U) - 1mA Current Output Adapter [530-0079]
(530-0080) - 5mA Current Output Adapter	(D20CS-U-U-U-U-U-J-U-U-U-U-U) - 5mA Current Output Adapter [530-0080]
(530-0081) - 10mA Current Output Adapter	(D20CS-U-U-U-U-U-K-U-U-U-U-U) - 10mA Current Output Adapter [530-0081]
(530-0082) - 20mA Current Output Adapter	(D20CS-U-U-U-U-U-L-U-U-U-U-U) - 20mA Current Output Adapter [530-0082]
D20 COMBINATION WESDAC DAUGHTER CARDS - LEGACY PART NUMBER	**D20 COMBINATION WESDAC DAUGHTER CARD MODULES - NEW PART NUMBER**
(540-0162) - WESDAC D20C D.20 Wesmaint Interface (LV)	(D20CS-U-U-U-U-U-U-U-U-U-U-A) - WESDAC D20C LV Wesmaint Interface Module [540-0162]
(540-0209) - WESDAC D20C D.20 Wesmaint Interface (HV)	(D20CS-U-U-U-U-U-U-U-U-U-U-B) - WESDAC D20C HV Wesmaint Interface Module [540-0209]
(540-0166) - WESDAC D20C Analog I/O	(D20CS-U-U-U-U-U-U-U-U-U-U-C) - WESDAC D20C LV 8 Analog Input / 8 Analog Ouput Expansion Module [540-0166]
(540-0159) - WESDAC D20C Analog I/P (LV)	(D20CS-U-U-U-U-U-U-U-U-U-U-D) - WESDAC D20C LV 16 Analog Input Expansion Module [540-0159]
(540-0205) - WESDAC D20C Analog I/P (HV)	(D20CS-U-U-U-U-U-U-U-U-U-U-E) - WESDAC D20C HV 16 Analog Input Expansion Module [540-0205]
(540-0227) - WESDAC D20 CHV Analog I/O DB	(D20CS-U-U-U-U-U-U-U-U-U-U-F) - WESDAC D20C HV 8 Analog Input / 8 Analog Ouput Expansion Module [540-0227]

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