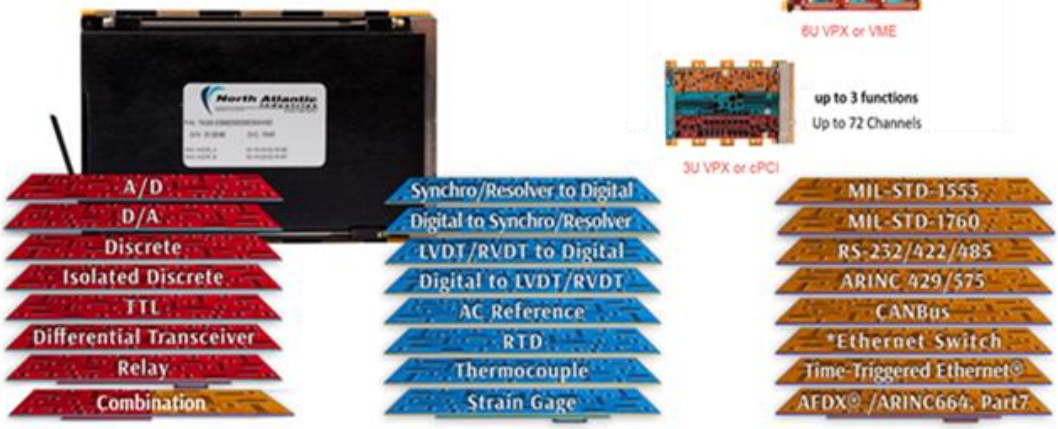
North Atlantic Industries

シンクロ/レゾルバ, LVDT/RVDT,
搭載用電源, Embedded Software Panel

Meet design goals RAPIDLY:
using modules vs. custom engineering



計測器


角度表示器　8810A


シミュレータ　5330A


位相角電圧計　2250A

40種類以上あるモジュールの中から必要なI/Oを選択し、VME、cPCI、VMXボードに搭載してシステムアップが可能です
センサ近くにシステムを設置してリモートでコントローラからイーサネット経由で通信制御が可能です
今回は下記VPX製品のほか、高密度実装を実現するCOSA システム、計測器を展示いたします

3U VPX
搭載対応電源(VPX57)
+28VDC / +270VDC 対応

3U VPX(68G5)
マルチファンクションI/Oボード
40種類以上のI/Oモジュールから
最大3枚を搭載可能です

NAI社製各種計測器の

Function Modules

I/O							
Function	**Module**	**Channels**	**Input Scaling**	**Resolution**	**Accuracy (±)**	**Sampling Rate (max.)**	**Type**
A/D Converter	AD1	12	±10, 5, 2.5 or 1.25 VDC	24-Bit	0.05% FSR	250 kHz	Sigma-Delta
	AD2	12	±100, 50, 25 or 12.5 VDC	24-Bit	0.1% FSR	250 kHz	Sigma-Delta
	AD3	12	±25 mA	24-Bit	0.1% FSR	250 kHz	Sigma-Delta
	AD4	16	±10, 5, 2.5 or 1.25 VDC or ±25 mA	16-Bit	0.1% FSR	400 kHz	SAR Multiplexed
	AD5	16	± 50, 25, 12.5 or 6.25 VDC	16-Bit	0.1% FSR	400 kHz	SAR Multiplexed
	AD6	16	±100, 50, 25 or 12.5 VDC	16-Bit	0.15% FSR	400 kHz	SAR Multiplexed
Function	**Module**	**Channels**	**Output Range**	**Resolution**	**Accuracy (±)**	**Settling Time**	**Current Output (max.)**
D/A Converter	DA1	12	±10 or 0-10 VDC or ±25 mA	16-Bit	0.05% FSR	10 µs typical	±25 mA
	DA2	16	±10 or 0-10 VDC	16-Bit	0.15% FSR	10 µs typical	±10 mA
	DA3	4	±40 or 0-40 VDC or ±100 mA	16-Bit	0.15% FSR	10 µs typical	±100 mA
	DA4 [2]	4	±20 to ±80 VDC	16-Bit	0.15% FSR	350 µs maximum	±10 mA
Function	**Module**	**Channels**	**Input Range**	**Output Range**	**Programmable**	**Current Out (max.)**	**Comments**
I/O, Discrete	DT1/DT4[4]	24	0-60 VDC	0-60 VDC	Input or Output/PWM	±500 mA	Source/sink (out)
	DT2/DT5[4]	16	±80 V	±80 V	Input or Output/PWM	±625 mA	Isolated/Ch. switch (out)
	DT3/DT6[2]	4	±100 V	±100 V	Input or Output/PWM	3 A	Isolated/Ch. switch/bridge
Function	**Module**	**Channels**	**Input Range**	**Output Level**	**Programmable**	**Comments**	
I/O, TTL/CMOS	TL1/TL3/TL5/TL7	24	0-5.5 V	TTL/CMOS	Input or Output	Standard functionality	
	TL2/TL4/TL6/TL8[4]	24	0-5.5 V	TTL/CMOS	Input or Output	Enhanced functionality	
Function	**Module**	**Channels**	**Input Range (422)**	**Input Range (485)**	**Output Range (422/485)**	**Comments**	
I/O, Differential	DF1/DF2[4]	16	-10 V to +10 V	-7 V to +12 V	-0.25 V to +5 V		
Function	**Module**	**Channels**	**Type**	**SW Volt/ Current**	**SW Power**	**Comments**	
Relay	RY1/RY2	4	SPDT (1 CH Form C)	220 V / 2 A (max.)	60 W / 62.5 VA (max.)	RY1 = non-latching; RY2 = latching	

Combination Modules

Function	Module	Channels	Operational Modes (MIL-STD-1553)	Programmable (Discrete I/O)	Comments
Combination – MIL-STD-1553 & Discrete I/O	CM1	2 channels MIL-STD-1553 12 channels Discrete I/O	BC, RT, BM, BM/RT	Input or Output/PWM	Part discrete I/O, part MIL-STD-1553 communications based on FT2 and DT4 modules

Measurement/Simulation

Function	Module	Channels	Frequency	Accuracy	Voltage	Power (max.)	Comments
AC Reference	AC1[2]	2	47 Hz – 20 kHz	±3% (base)	2-115 V_{RMS}	5 VA	(1 Ch. LV; 1 Ch HV)
	AC2	2	47 Hz – 20 kHz	±3% (base)	2-28 V_{RMS}	5 VA	
	AC3[2]	2	47 Hz – 2.5 kHz	±3% (base)	28-115 V_{RMS}	5 VA	
Function	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy (±)**	**Interface**	
L(R)VDT/D (meas.)	LDX[1]	4	47 Hz to 20 kHz	16-Bit	0.025% FSR	2, 3 or 4-wire programmable	
Function	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy (±)**	**Tracking Rate**	
SYN(RSL)/D (meas.)	SDX[1]	4	47 Hz to 20 kHz	16-Bit	±1 arc-min (0.0167°)	953.67 RPS max. (based on bandwidth value)	
Function	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy (±)**	**Power (max.)**	
D/SYN(RSL) (sim.)	DSX[1,2] (DRX[1, 2])	1, 2, 3	47 Hz – 20 kHz	16-Bit	±1 arc-min (0.0167°)	3, 2.2, 0.5 VA/channel	
Function	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy (±)**	**Power (max.)**	
D/L(R)VDT (sim.)	DLX[1, 2]	1, 2, 3	47 Hz – 20 kHz	16-Bit	0.1%, 0.1%, 0.3% FSR	3, 1.5, 0.5 VA/channel	
Function	**Module**	**Channels**	**Update Rate**	**Resolution**	**Accuracy (±)**	**Interface**	**Comments**
Thermocouple (meas.)	TC1	8	4.17 – 470 Hz	24-Bit	0.2-0.9° C (typ.) 0.2% FSR	J, K, T, E, N, B, R, S Raw A/D input	TC type dependent ±100 mV
Function	**Module**	**Channels**	**Update Rate**	**Resolution**	**Accuracy (±)**	**Interface**	
RTD (meas.)	RT1	8	Programmable up to 4800 Hz	16-Bit	0.05% FSR (4-wire)	2, 3 or 4-wire	

Communications

Function	Module	Channels	Frequency	Input/Output	Message Buffer	ARINC Standard
ARINC Communications	AR1	12	100 kHz or 12.5 kHz	Rx/Tx	256 word Tx/Rx	429/575
	AR2	2	11 kHz	Ch.1 Rx and Tx Ch.2 Rx or Tx	128 word Tx/Rx	568/579
Function	**Module**	**Channels**	**CAN Protocol**	**Message Buffer**	**Data Rate (Prog.)**	**Comments**
CANBus	CB1/CB2/CB3	8	CB1= 2.0A/B CB2= J1939 CB3 = Both	16K Rx/Tx	1 Mbps (max.)	Bosch® IP Core
Function	**Module**	**Channels**	**Operational Modes**	**Onboard RAM**	**Coupled**	
MIL-STD-1553	FT1/FT4	1	BC, RT, BM, BM/RT	128 kByte	FT1 = Transformer/FT4 = Direct	
	FT2/FT5	2	BC, RT, BM, BM/RT	128 kByte/Ch.	FT2 = Transformer/FT5 = Direct	
	FT3/FT6	4	BC, RT, BM, BM/RT	64 kByte/Ch.	FT3 = Transformer/FT6 = Direct	
	Contact factory regarding MIL-STD-1553 software protocol compliance with RS422 hardware interface levels applications.					
Function	**Module**	**Channels**	**HW Interface Levels Support**	**Bit rate (Async/Sync)**	**Tx/Rx Buffer**	**Comments**
Serial Communications	SC1/SC2/SC7	4	RS-232/422/485 (MIL-STD-188C)/423	1 Mbps(Async)/ 10 Mbps (Sync) per Ch.	8 MB / ea. (16-bit word)	Partial modem. SC2 is isolated version. SC7 provides 1-GND/Ch.
	SC3	8	RS-232/422/485	1.5 Mbps (Async)	Up to 32 MB	GPIO or Async only

For more information Contact TPT KK

詳細はﾒｰﾙ（ sales.t@tptech.co.jp ）でのお問い合わせもしくはﾎｰﾑﾍﾟｰｼﾞ（ www.tpech.co.jp ）をご参照ください。

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