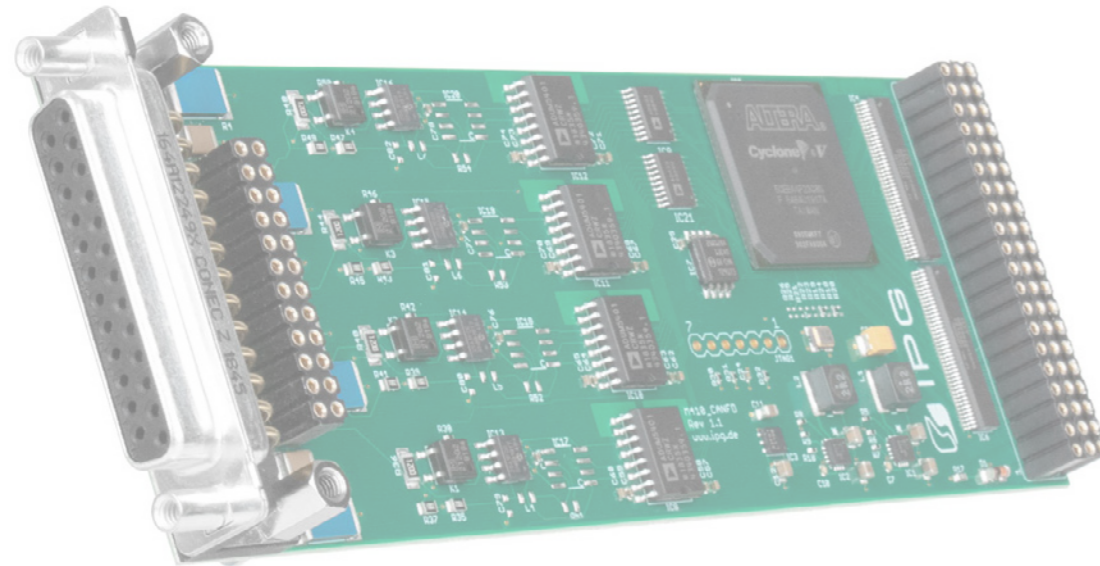


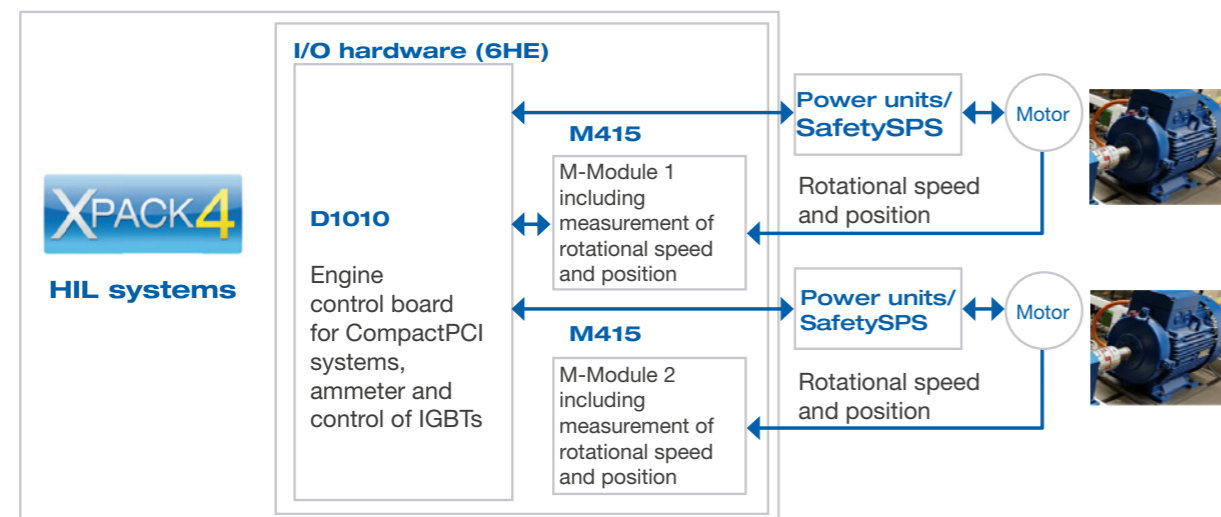
## M415 – Motor encoder interface module



M-Module Example

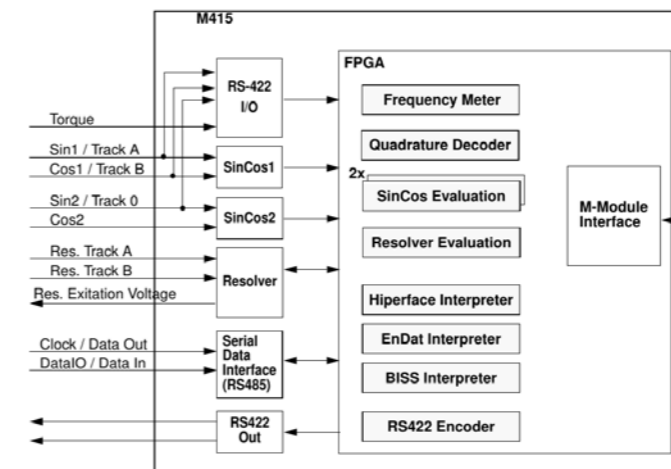
### Features

The encoder module M415 measures the torque, the rotational speed and the position. The module's main area of application is the measurement of the named parameters on motor test benches. The M415 module is designed as a PCI Mezzanine Card (PMC) and allows for flexible use on the respective carrier boards. For optimum use of M415, the engine control board from OPVengineering with sockets for the encoder module D1010 is available. Up to two M415 modules and therefore two engines can be controlled by the control panel. Independent use of M415 on standard carrier boards is also possible. The modular design enables to flexibly adapt the entire measurement system to specific applications. The Xpack4 system offers a scalable, reliable and powerful real-time solution. Assembled on a 25-pin D-SUB plug on the front panel of the module, all input and output signals are easily reachable.



Xpack4 system

### Block Diagram



### Technical Data

Torque input channels:	
Number of channels	1
Working voltage range	$\pm 0.2V \leq V_{diff,in} \leq \pm 5V$ RS422 compliant
Frequency range	0 .. 25Mhz
Encoder input channels:	
Number of channels	2
Modes	sines-cosines, RS422
Working voltage range	sines-cosines: 1 .. 1.2Vpp RS422: $\pm 0.2V \leq V_{diff,in} \leq \pm 5V$
Sampling rate	sines-cosines: 5MS/s RS422: 25MHz
Bandwidth	sines-cosines: 500kHz RS422: 25MHz
Encoder output channels:	
Number of channels	1 (Track "A" + Track "B")
Working voltage range	$\pm 0.2V \leq V_{diff,in} \leq \pm 5V$ RS422 compliant
Frequency range	0 .. 25Mhz

Serial interface (Not yet implemented):	
Supported protocols	BISS-C EnDat 2.2 HiPerFace
Number of channels	1
Working voltage range	$\pm 0.2V \leq V_{diff,in} \leq \pm 5V$ RS485 compliant
Frequency range	0 .. 32MHz
Resolver input channels:	
Number of channels	1
Working voltage range	$\pm 2V \dots \pm 10V(p-p)$ 1.4V .. 7V (RMS)
Sampling rate	3MS/s
Bandwidth	500kHz
Excitation current	max. 150mA
Excitation voltage frequency	1.0 .. 50kHz (adjustable)

### Order Information

Order Number	IO-M415
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