

AUTOLOG 3000

CM3410 multiplexed input card for the AUTOLOG 3000



Features of CM3410

- 1 common measuring amplifier
- 1 analog-to-digital converter (24 bits @ 1 kHz)
- multiplexer with 72 input lines, for :
 - ❖ 9 x 8-wire channel (incl. 2 for TEDS)
 - ❖ 12 x 6-wire (i. e. load cells)
 - ❖ 18 x 4-wire (i. e. Pt100)
 - ❖ 36 x 2-wire (i. e. thermocouple)

Strain gauge measurement:

- High-precision complementary resistors for:
 - ❖ ½ bridges
 - ❖ ¼ bridges (120, 350 and 1000 Ohms)
- Bridge supply adjustable between 0,5 till 5 V
- Shunt measurement to check the sensor cables
- Resolution of 0,2 µm/m

Introduction

Very often different types of sensors and measuring principles have to be applied not only for different test jobs, but also within one particular application. With this in mind, AUTOLOG 3000 is designed to be a universal input device with the highest versatility. Strain gauges, thermocouples (of all types), resistance, LVDT, thermometers (Pt 100), potentiometric transducers, a variety of DC input ranges and digital in- and outputs can easily be connected.

The CA3460 is a 6-channel measuring card, of which each individual channel has its own analog amplifier and its own 24 bits A/D converter with a measuring speed of 1 kHz. The amplifier is of a highly universal concept, enabling the direct connection of nearly all popular sensors. A powerful microprocessor, a CAN-Bus interface a local SPI bus and a power supply unit, suitable for 9...36 VDC, complete each module into an autonomous unit.

CM3410 multiplexer card

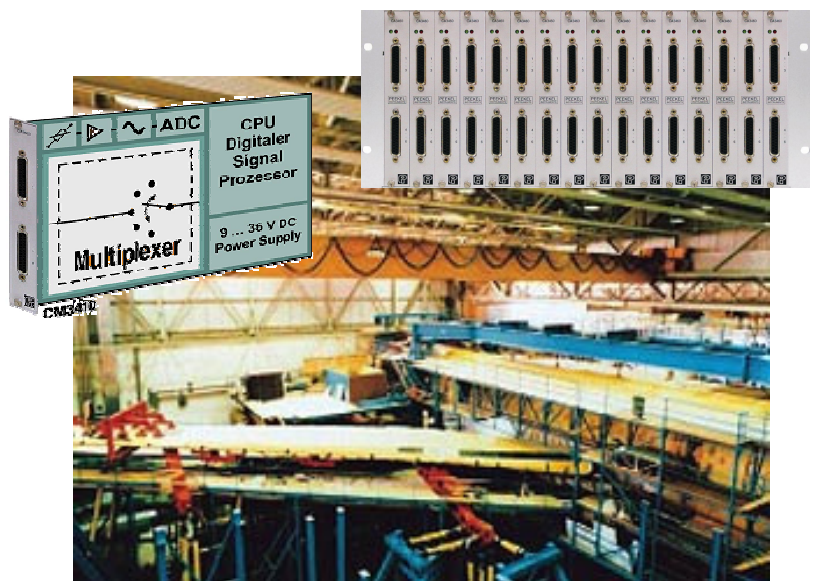
One of the members of the AUTOLOG family is a multiplexer card with a capacity of maximum 36 input channels. With the multiplexer, cost-effective larger systems can be configured if scanning speed is of lesser importance.

The CM3410 card is actually a CA3460 card with just one 24 bits A/D converter, one analog amplifier and a multiplexer (solid state switches) in front of the amplifier.

PEEKEL Instruments B.V. at Rotterdam, Netherlands is one of the oldest manufacturers of strain gauge measuring instrumentation. PEEKEL equipment is in daily use in all major laboratories and research centers for testing aircraft, railway rolling stock, motor vehicles, cranes, bridges, machinery, engines, ships, satellites, etc.

ISO 9001

BUREAU VERITAS
Certification



Structural testing of large objects like airplanes. Relative low measuring speed, 1000+ channels : CM3410 multiplexer card.

A few details of the CM3410 explained:

For optimum configurability the inputs are divided 3 groups. First a selection must be made for each group what kind of signal connection technology is used for this group.

- ❖ 8 wire connection (3 channels in this group)
- ❖ 6 wire connection (4 channels in this group)
- ❖ 4 wire connection (6 channels in this group)
- ❖ 2 wire connection (12 channels in this group)

Now when selecting a sensor type for one of the channels in a group, only a selection can be made from the sensor type list which uses the selected connection technology.

Since 3 groups are available, sensor types can be mixed on one card. For example:

- 4 load cells (one 6 wire group) and 24 DC channels (two 2 wire group)
- 8 load cells (two 6 wire group) and 6 Pt100 channels (one 4 wire group)
- 12 Thermocouples (one 2 wire group) and 24 DC channels (two 2 wire group) (without CJC)
- 12 Thermocouples (one 2 wire group) and 22 DC channels (two 2 wire group) (with CJC)

The CM3410 card will always measure the channels one after the other and with the same speed. The maximum scan rate will be 200 Hz for the hole card.

CM3410 Specifications :	
<p>For the amplifiers and A/D converter on this card: Typical accuracy: 0.1% Max sample rate: 200 samples/second/card</p> <p>Input signals: Voltage $\pm 40\text{mV}$, $\pm 2\text{V}$, $\pm 10\text{V}$ Current $\pm 50\text{mA}$, input resistance 70Ω Potentiometer sensors output in 0 – 100% Thermocouples (B,E,J,K,N,R,S,T) PT100 sensors: $-200\text{ }^\circ\text{C}$ - $+500\text{ }^\circ\text{C}$ Resistor sensors: 0 – 4000Ω</p> <p>Strain Gauge input: Full bridge Half bridge Quarter bridge 120Ω, 350Ω or 1000Ω Internal shunt resistor to check external bridge connections Sense technology (6-wire) Voltage: 0,5 – 4VDC (in steps of 0.5V) Min. permissible load: $200\Omega \geq 2.5\text{V}$ $60\Omega < 2.5\text{V}$</p>	<p>Further details: 24 bits AD converter 16 bit microcontroller CAN communication max 1 MBit/sec. Local SPI bus: max 6 MBit/sec. Operating temperature: $-20\text{ }^\circ\text{C}$.. $+60\text{ }^\circ\text{C}$</p> <p>Power supply: 9 – 36VDC 12VA</p>

Other AUTOLOG 3000 cards are :

- PB3000 Ethernet interface running XP with optional harddisk
- CD3733 digital I/O card.
- CA3540 carrier frequency card

Note : All information in this document can be changed without prior notice.

08/05/2008



**PEEKEL
INSTRUMENTS**

PEEKEL INSTRUMENTS B.V., Industrieweg 161, NL-3044 AS
Rotterdam, Tel.: (+31) (0) 10 415 27 22, FAX: (+31) (0) 10 437 68 26
PEEKEL INSTRUMENTS GMBH, Bergmannstr. 43, D-44809 Bochum
Tel.: (+49) (0) 234 904 - 1603 / 1604, FAX: (+49) (0) 234 904 - 1605
PEEKEL INSTRUMENTS B.V.B.A., Industrielaan 4, B-9320
Erembodegem, Tel.: (+32) (0) 538 535 08, FAX: (+32) (0) 538 394 54