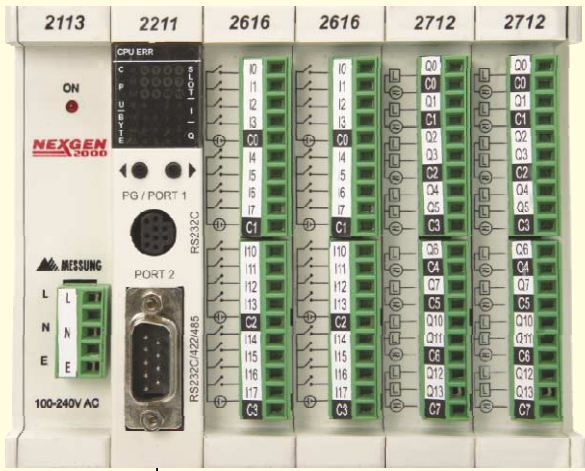
Messung Systems is certified for ISO 9001:2000
(Standard for Quality Management System)

TÜV CERT
ISO 9001 : 2000
Certificate:04100 20047173-E3
RWTÜV

NEXGEN 2000 PLC

The Power Of Nexgen-2000 PLC



Discover the New Standards in Micro PLC Technology

पूर्णतः भारतीय उद्गम™

MESSUNG
AUTOMATION PEOPLE

Messung Systems Powering Innovation

MESSUNG
AUTOMATION PEOPLE

Messung Systems is the pioneer of indigenous PLC technology and has given the world many new-age automation products. The backbone of Messung Systems is its R & D division that is fiercely dedicated towards creating automation products that can completely transform factory working.

Today Messung Systems boasts of 35,000 successful PLC installations in diverse industries like automobile, pharmaceutical, plastic, textile, printing and food processing. With an enviable turnover and a string of delighted customers behind it, Messung Systems is moving ahead to give the world a whole new portfolio of next generation products.

NEXGEN-2000 PLC - Breaking New Ground in Automation

Nexgen-2000 PLC gives you the Convenience of Compactness with the advantage of Modular Power. Sleekly designed, it enjoys a distinct advantage of compact power along with innumerable features. NEXGEN-2000 PLC is designed to suit any application encompassing requirements from 14 I/Os to 128 I/Os (Free Mix) with a wide variety of I/O options. It integrates the benefits of small size controllers with the modularity of larger PLCs giving you a leading edge. It is coupled with a global standard Windows based IEC 61131-3 programming package with a variety of program editors for better structuring of large programs. With the option of open connectivity it can be matched with a technical challenge of any application need. Surely, Nexgen-2000 PLC is a product that gives you features you never thought possible.

Exemplary Highlights

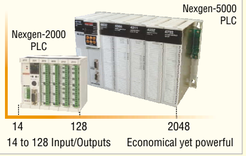
True Power Inside

- High speed backplane serial bus
- Development of application specific function blocks
- Multilevel passwords
- Downloadable O.S. for system upgradability
- Huge memory
- Wide range of digital I/O modules
- Embedded intelligence in Digital I/O Modules

Embedded Intelligence In Digital I/O Modules

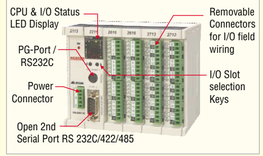
- Programmable input filter time
  - Filter time settable from 500µs to 255µs
- Programmable pulse catch (8 Ch)
  - Minimum 500µs pluse width
- HSC, Interrupt function (Upcoming)
  - 2 HSC counters, 20 KHz and 2 KHz on each input module
  - Programmable interrupt on count match
- PTO in DC output module (Upcoming)

Product Positioning



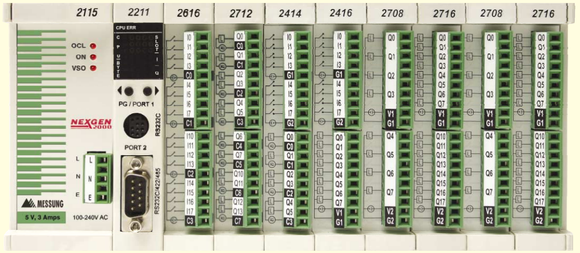
Perfect Understanding between Nexgen Series of PLCs

Compact Yet Modular



NEXGEN 2000 PLC

Upto 128 I/O Capacity in Free Mix



Supreme Power For Extensive Technical Requirements

Central I/O Status Monitor

- Simple to use -

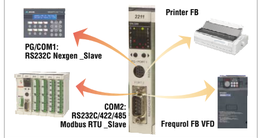
It helps in easy diagnostics and maintenance of the PLC

- CPU Status Indications
- Slot Selection
- Input/Output Bit Status Indications
- Slot select Push buttons

Central Monitoring of:
- CPU Status
- Module Status
- I/O Status

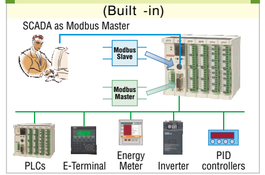
Serial Ports – Nexgen-2000 PLC

Default Option | User Configurable Option



Modbus Connectivity

(Built -in)



Vital Statistics–Nexgen-2000 CPU

Number of Inputs and Outputs	128 Inputs/Outputs (8 slots) - Free Mix
Application Memory	128 Kbytes
Source Code Memory	512 Kbytes
Marker memory	8 Kbytes
File Markers	48 Kbytes
Data Memory	32 Kbytes

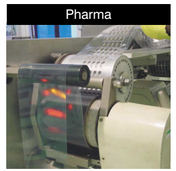
Real Time Clock	Present
Timer / Counter	Unlimited*
Battery type (Life = 3 Years)	3.6 V DC, Ni-Mh, 80 mAH rechargeable
Instruction Execution Speed	0.6-0.8µS : BOOL operation < 1.2µS : WORD operation

(*Limited by available Data Memory)

Disk on CPU

- Storage of complete project file with comments on the PLC CPU
- Optional password protection

Smart Controller - A Perfect Fit for Every Applications



Nexgen-2000 PLC can be used as PLC, Process Controller, Data Logger, Communication Gateway, Machine Controller and for many more applications...

CoDeSys Automation Alliance

Global Standard IEC 61131-3 Compatible Programming Software Package

Programming Platform : CoDeSys

- Windows based programming suite
- Identical programming platform for Nexgen-2000 & Nexgen-5000 PLC
- IEC 61131-3 Compatible programming defines advanced programming techniques
- Offline, Online, Debugging features & Auxiliary functions are available on the finger tip of the user
- Password protection for projects & FB libraries
- Modular programming
- Powerful graphical & textual language program editors
- Powerful function library management
- Offline simulation

Computation Power

√5.239 x DiffPress CirA: PIE* (dxd) / 4

√

Log¹ 3.142 PWM BYTE ITME

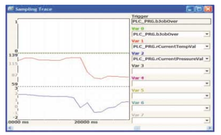
PID ARRAY TON FIFO LIFO

STRING POINTER TOF

COS REAL INT TAN SIN

Unique On-Line Graphics

Sampling Trace



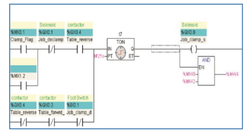
Sampling Trace : Sampling Trace is the utility which displays on-line changed - processed values , in graphical format. This is similar to Logic Analyzer or Digital Storage Oscilloscope.

Sampling Trace Facilitates :
- Automatic & Manual Recording
- Flexible sampling time from 1 ms to 20 sec
- Recording of samples from 32 to 1024 (Qty)
- Storing the sampled data of a cycle in text format
- Storing & Retrieval the various configuration files

Process Visualization

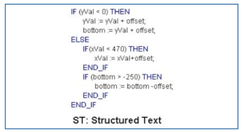
- Supports various elements as circles, polygons,lines, curves, rectangles, bitmap images & buttons etc.
- This interactive Graphic User Interface, can be designed as per application requirement
- Preliminary meant for data monitoring rather than control action

Wide Choice of IEC Programming Languages



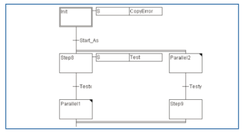
LD : Ladder

- Electrical engineers' language of contacts and relay coils
- Choice to embed FBD as needed, to increase its power to resolve even mathematical equations



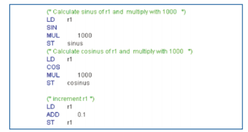
ST : Structured Text

- High level programming language very similar to PASCAL
- Suited for complex conditional programming, loops and much more



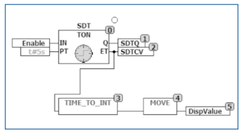
SFC : Sequential Function Chart

- Structured graphically oriented language
- Programs (Action) connected to steps
- Executed, when the corresponding step is active
- The steps are separated by transitions



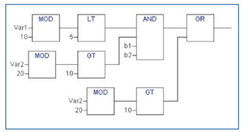
IL: Instruction List

- Very similar to assembly programming
- Fast and easy - based on an accumulator model



CFC: Continuous Function Chart

- Freehand function block diagram
- Provides programming feedback loops
- Flexibility of drawing connection

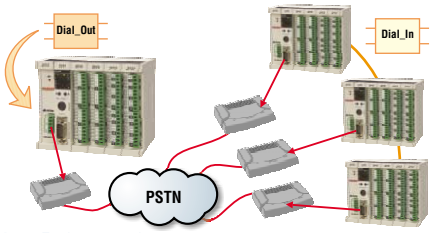


FBD : Function Block Diagram

- Process industry's graphical language.
- Handles both Boolean and Analogue expressions with same ease

Remote Communication

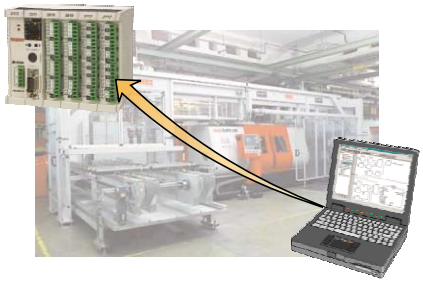
- via Modem -



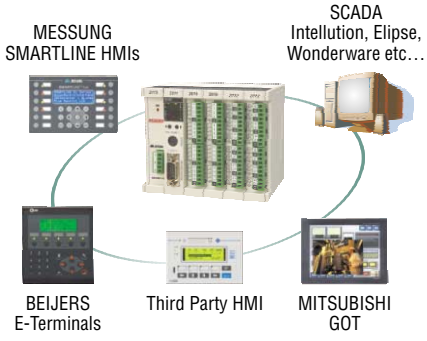
Data Exchange with Remote PLCs

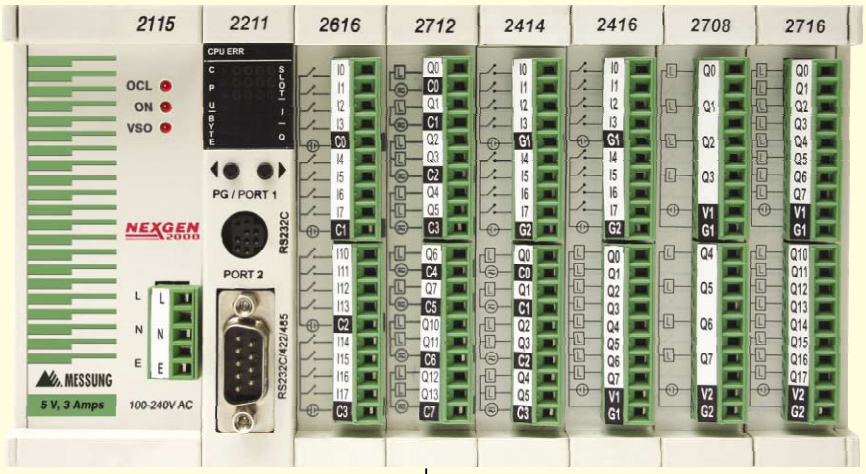
It is also possible with GSM Modems.

Online Programming



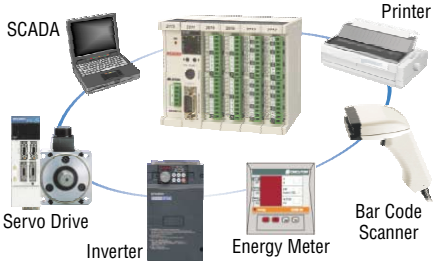
HMI Connectivity Options





Greater Power For Higher Needs

Open Connectivity Options



Enhances CPU Functionality With Proven FB Libraries

Utility Library

- **Freqrol FB**
- **MELSEC Servo FB**
- **Recipe Read / Write**
- **Bit Wise Data Handling**
- **Data Block Handling**
- **FIFO and LIFO**
- **String Handling Functions**
- **Motion Library**
- **PID FB**

PID FB is the universal form of closed loop controls & can be used for temperature, humidity, flow & pressure control.

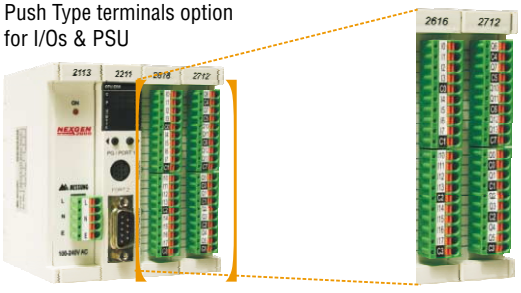
Features:
Anti-reset Windup, Auto/Manual Modes, Bumpless Transfer, Forward bias.
PID to PWM FB for heater control via SSR.

General Specifications

Operating Temperature	**0-55°C**
Relative Humidity	**5-95% Non Condensing**
Noise Immunity	**As per 61131-2**
- PSU	2 KV, 5KHz superimposed on supply as per IEC 1000-4-4
- Communication Port	1 KV, 5KHz capacitive coupled to signal lines as per IEC 1000-4-4
- I/O	1 KV, 5KHz capacitive coupled to lines as per IEC 1000-4-4
No. of I/O slots in the rack	**2,4, 6, and 8 I/O slots**

Userfriendly Option

Push Type terminals option for I/Os & PSU



Ordering Specifications

Description	Ordering code
CPU	
CPU with one serial port (PG)	2210
CPU with two serial ports (PG and Aux.)	2211
Power Supply	
85 to 260 VAC Universal Supply input module, 1.5 Amp at 5 VDC output	2113
24 VDC supply input module, 1.5 Amp at 5 VDC output	2112
Housing Racks	
2 I/O rack with AC/DC, 1.5 A PSU + CPU slots	2912
4 I/O rack with AC/DC, 1.5 A PSU + CPU slots	2914
6 I/O rack with AC/DC, 3 A PSU + CPU slots	2916
8 I/O rack with AC/DC, 3 A PSU + CPU slots	2918
Input/Output Modules	
16pt. 24 VDC Input Module	2616
12pt. relay output Module, 500 mA per point	2712
8pt. 24 VDC input + 6pt. Relay output module ,500 mA per point	2414
8pt. 24 VDC Input + 8pt. 24 VDC output module, 250 mA per point.	2416
8 pt. P. F. Relay output module, 1 A per point	2711
16 pt. 24 VDC Output module, 250 mA Per point module	2716
8pt. 24 VDC output module, 1.5 Amps/point, 4 Amps(Group of 4 Output Points)	2708
Blank Fascia	2950
Programming Package	
Programming software CoDeSys	9920
Programming cable 9 pin mini DIN to 9 pin D-type	2910
9 pin mini DIN to 9 pin D Connector Conversion cable	2911
Memory Cassette	9904

Upcoming Modules

Description	Ordering code
CPU for 128 I/O, one serial port and 2 HSC/PTO	2212
CPU for 128 I/O, one serial port, 2 HSC/PTO and one CAN open port	2213
85 to 260 VAC Universal Supply input module, 3 Amp at 5 VDC output	2115
24 VDC supply input module, 3 Amp at 5 VDC output	2114
4 Channel,16 bit, Universal analog input module	2304
4 Channel, 16 bit, RTD input Module	2305
2 Channel,12 bit analog output module voltage / current	2332
2 Channel Serial communication module	2520

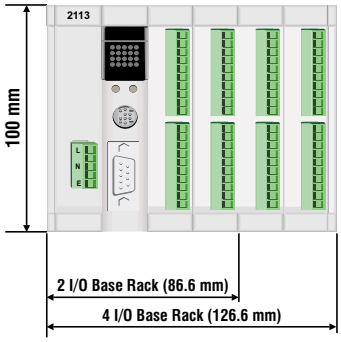
Programming Cables

- 2910 : Programming cable
- 2911 : Patch cable for conversion to standard 9 pin D connector & can be used with a programming Cable 9910

Program Cassette - 9904

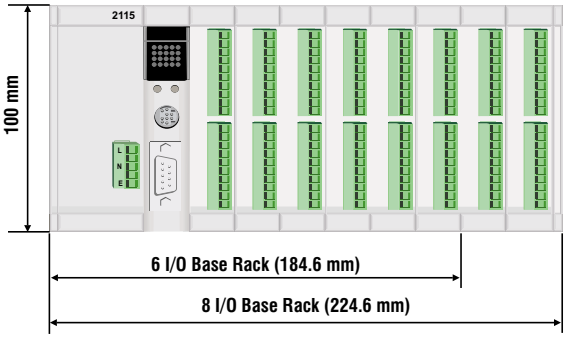
- Program Cassette can be used as an Application Program Storage and Carrier Device
- Program back- up available on Field & Easy Maintenance of distant projects

Dimensions



(Depth 90 mm)

2113 - 5 V, 1.5 A PSU



2115 - 5 V, 3 A PSU

DIN Rail Mounting

Upcoming Feature In Nexgen 2000 PLC

- Interface to Messung RiX series Remote I/O units
- Serial communication modules
- Ethernet communication module

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