



FACTORY AUTOMATION

# GRAPHIC OPERATION CONTROLLER

Visualise. Control. Connect.



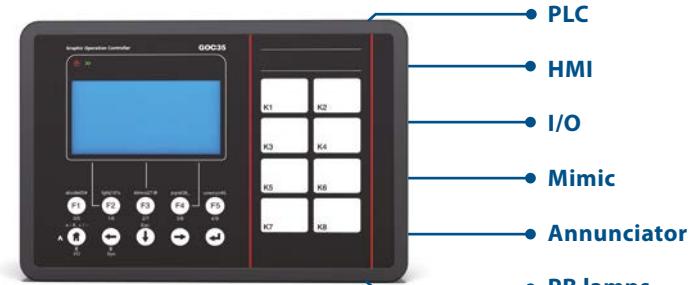
CC-Link IE Field Basic

# A single controller for all automation needs

## Introduction

### Key attributes

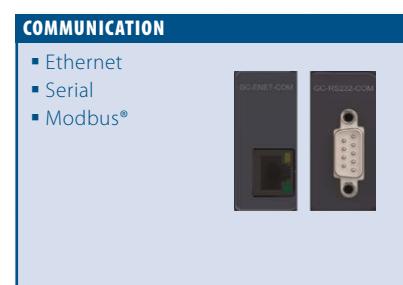
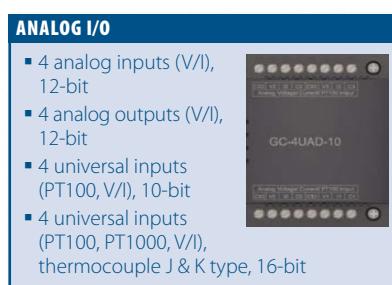
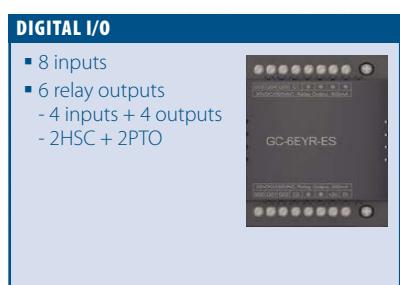
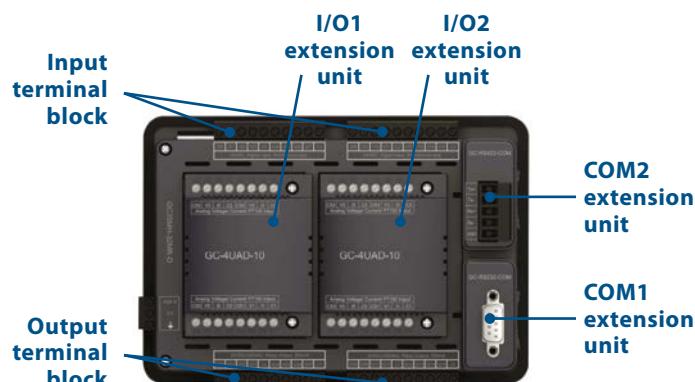
- I/O capacity: 48
- Main unit: 16 I/O and 32 I/O
- I/O extension unit: Analog, DI/DO
- Communication options
  - Serial RS232
  - Serial RS422/485
  - Ethernet
- Display: Graphical LCD, 128 x 64 pixels
- Configurable Modbus®/RTU Master/Slave and Modbus®/TCP Server
- CC-Link IE Field Basic Master/Slave
- Data logging via SD card (up to 32 GB)



## Main unit back side view

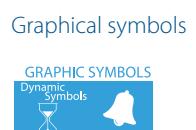
### Key attributes

- 6 models. 16 I/O (relay, transistor (sink, source)) and 32 I/O (relay, transistor (sink, source))
- Configurable digital inputs:
  - 2 HSC: 20 kHz, 2 hardware interrupt
  - 2 encoder: 10 kHz, 2 pulse catch



## GOC HMI function

**Easy debugging in a single operation and choice of preferred language**



## Illuminated keys

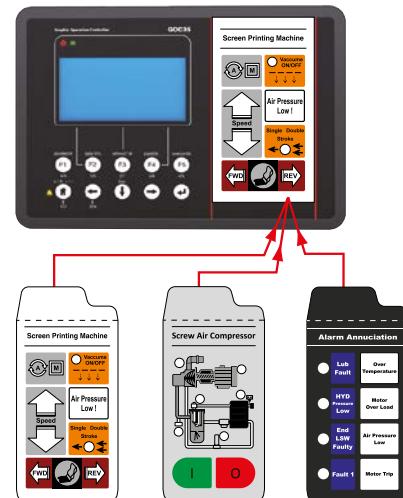
### Key attributes

- 8 illuminated keys (keys with dual color bright LEDs)
- User configurable operation inch/toggle/go to screen
- LED control red/green/yellow ON/OFF/blink slow/blink fast
- Multi-fold usage combined with slide-in label

### Customization

Easy customisation of front look

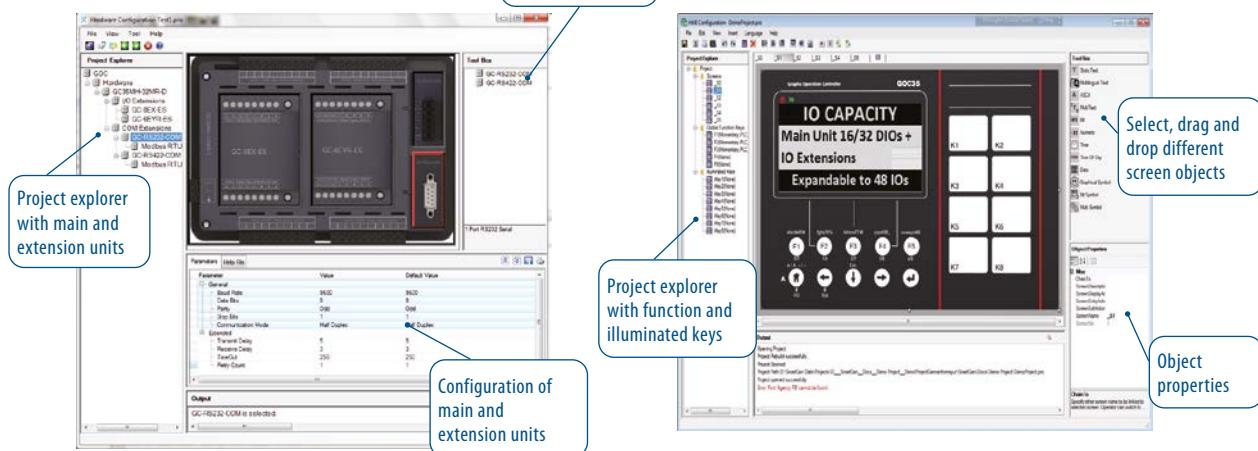
- Insertable side-in labels
- Process mimic
- Brand labeling
- Machine information



## Software features

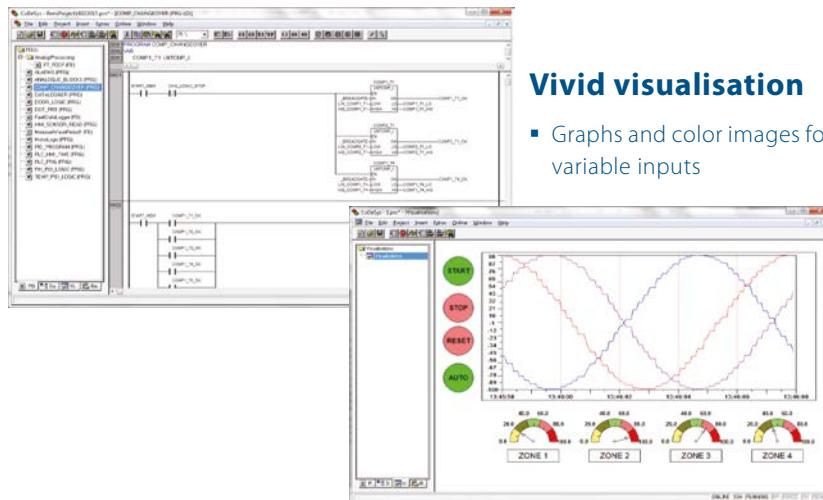
### Single integrated programming software for PLC and HMI – free of charge!

Easy hardware and HMI configuration without the need to invest time in learning two different softwares for PLC and HMI.



## PLC editor

- Number of languages to choose from
- Built-in function blocks to save time



### Vivid visualisation

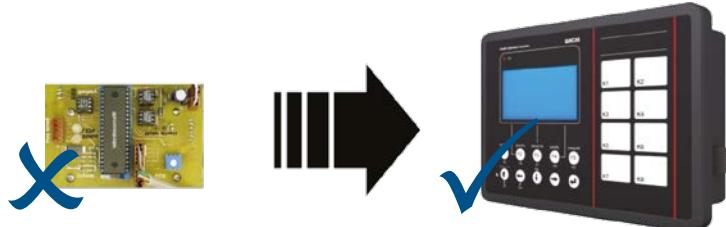
- Graphs and color images for variable inputs

# Automation made easy

## SIMPLE FUNCTION

### Entry level application

Still stuck to traditional microcontroller based dedicated controller on relay logic? Time to move on, design your own concept with GOC and save big on time and money.



## MODERATE FUNCTION

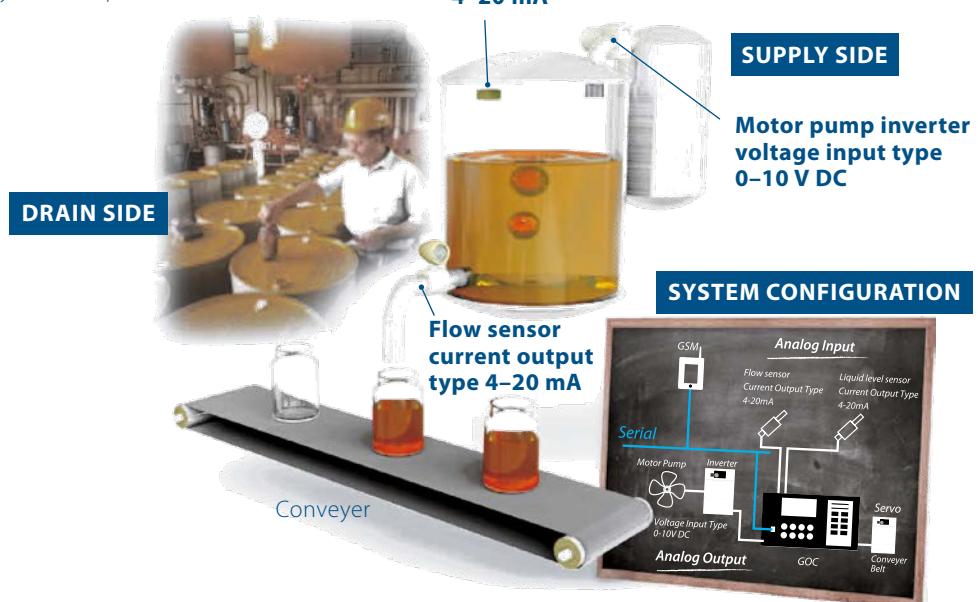
### Wide connectivity to fulfil your basic needs



## ADVANCED FUNCTION

### Compact yet advanced function

Take this flow control application in the food industry for example.



# Specification

## Main unit

MODEL	GC35MH-16MT-DS GC35MH-16MR-D GC35MH-16MT-DSS	GC35MH-32MT-DS GC35MH-32MR-D GC35MH-32MT-DSS
I/O range (input, output)	16 (8, 8)	32 (16, 16)
Maximum I/O range	48	
CPU performance	BOOL MOVE (BYTE, WORD) MOVE (DWORD, REAL)	0.3 µsec 0.3 µsec 0.1 µsec
Memory size	Program Source code and comments Data memory Retain memory	192 KBytes (for PLC program and HMI program) 1.5 MBytes 24 KBytes 1 KBytes
Power		24 V DC, 400 mA, 9.6 Watt
Output type		GC35MH-16MT-DS: Transistor (sink) GC35MH-16MR-D: Relay GC35MH-16MT-DSS: Transistor (source)
GC35MH-32MT-DS: Transistor (sink)		GC35MH-32MT-DS: Transistor (sink)
GC35MH-32MR-D: Relay		GC35MH-32MR-D: Relay
GC35MH-32MT-DSS: Transistor (source)		GC35MH-32MT-DSS: Transistor (source)
Integrated functions	Single phase counter Encoder interface Pulse catch Real time clock Communication Serial protocols Ethernet protocols	20 KHz (2 Nos.) 10 KHz (2 Nos.) Min 500 µsec (2 Nos.) Retained up to 2 weeks with super capacitor backup RS232, RS422/RS485, Ethernet (via com extension unit) Modbus®/RTU Master, Master RTU Slave TCP/IP, Modbus®/TCP Server, CC-Link IE Field Basic Master/Slave
HMI	Display Keys Illuminated keys	Graphic LCD display, 128 x 64 pixels, white characters on blue background 10 keys for display navigation and data entry (user configurable functionality for 5 keys) 8 (Keys with bi-colour LEDs, slide-in label)
I/O expandability		2 I/O extension slots
Communication expandability		2 COM extension slots
Programming	Software IEC 61131-3 languages User defined function blocks	GOToolkit (includes CoDeSys for programming and other configuration tools) Ladder, ST, SFC, FBD, IL Yes
Environmentals	IP level Temperature range Dimensions	IP65 from front, IP20 from rear Operating: 0 to 55 °C, storage: -20 to 75 °C Cut out: 166.5x107.5 (WxH), front: 177.0x123.0x4 (WxHxD)
Approvals	CE, ROHS	Yes

# Specification

## I/O extension units

	GC-8EX-ES	GC-6EYR-ES	GC-8ET-ESS	GC-4AD-12	GC-4DA-12	GC-4UAD-10	GC-4UAD-1 OE	GC-4UAD-16	GC-4HSOXPTY
<b>I/O extension type</b>	Digital			Analog				High speed digital	
<b>Input points</b>	8	0	4	4	0	4	4	4	2 Ch HSC/encoder, 100/50 KHz max
<b>Output points</b>	0	6	4	0	4	0	0	0	2 Ch PTO, 100 KHz max
<b>Input type</b>	24 V DC, sink/source	—	24 V DC, sink/source	Voltage: 0 to 10 V DC / -10 to 10 V DC Current: 0 to 20 mA / 4–20 mA	—	Voltage: 0 to 10 V DC Current: 0 to 20 mA RTD PT100: -50 °C to 150 °C	Voltage: 0 to 10 V DC Current: 0 to 20 mA PT100: -50 °C to 450 °C	Voltage: 0 to 10 V DC Current: 0 to 20 mA PT100, PT1000 thermocouple: J type & K type	24 V DC sink/source
<b>Output type</b>	—	Relay (500 mA at 250 V AC and 30 V DC)	24 V DC, Source type 1.5 A/output	—	Voltage: 0 to 10 V / -10 to 10 V Current: 0 to 20 mA / 4–20 mA	—	—	—	5 V DC differential
<b>Resolution</b>	—	—	—	12 Bit	12 Bit	10 Bit	10 Bit	16 Bit	—
<b>Isolation</b>	Optical 1.5 KV between input and internal circuit	Galvanic between output and internal circuit	Optical 1.5 KV between input/ output and internal circuit	No isolation	No isolation	No isolation	No isolation	No isolation	Optical 1.5 KV between input and internal circuit. No isolation between PTO and internal circuit
<b>Protections</b>	—	—	Short circuit protection for output	—	Short circuit protection for voltage output	—	—	—	No short circuit protection for PTO

## COM extension units

	GC-RS232-COM	GC-RS422-COM	GC-ENET-COM
<b>Hardware interface</b>	RS232C	RS422/485	10/100 Base-TX
<b>Number of COM ports</b>	1	1	1
<b>Communication speed (BPS)</b>	9600, 19200, 38400, 57600, 115200		10/100 Mbps
<b>Connector type</b>	9-pin D-sub male	5-pin removable terminal block	RJ45 female, shielded

### European Offices

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