

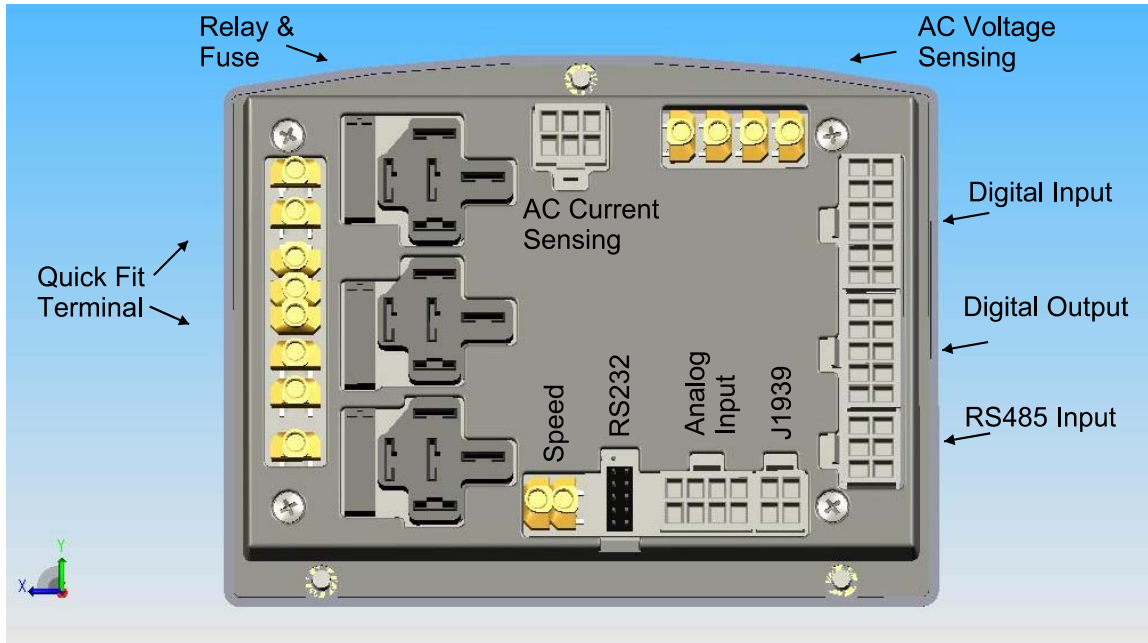


# GSC400 Series

## Automatic Engine Controller



***GSC400 Automatic Engine Controller***  
**Accessories list**  
Revision 1.5

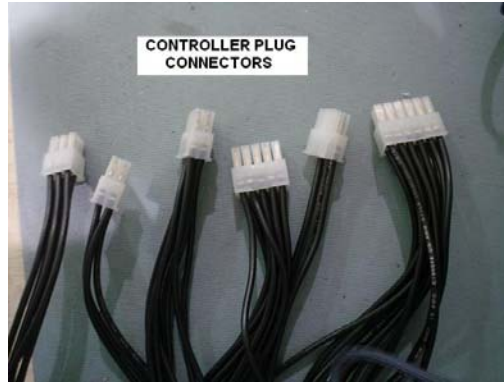


## GSC400 Controller Harness - Accessories

Many electrical connections need to be installed to the GSC400 for proper operation. Wire harness connectors may be supplied to the customer upon request. Wire harnesses/connectors would include:

Harness Description	Stock Code	Harness Length
Standard Cable Set (Includes CT current sensing, Digital input and Analog input cables)	ACC0086	5 Feet
Digital Output	DWG1377R2-5	5 Feet
RS485	DWG1374R2-5	5 Feet
J1939	DWG1373R2-5	5 Feet

Harness locations for the Digital input, Digital output, RS485 input, J1939, Analog input and the AC Current sensing connectors on the GSC400 controller are as shown below.



GSC400 Programmer Assembly:

Programmer Description	Stock Code	Cost (CAD)
USB/SERIAL Programmer	GSC400-PGMR	

**CT's (Current Transformers)**

Current transformers are required for the display of AC current. 1 CT is required for each phase to be displayed. The wiring for the CT's are as follows:

In single phase applications

- Phase A to terminals Phase A\*

In three phase applications

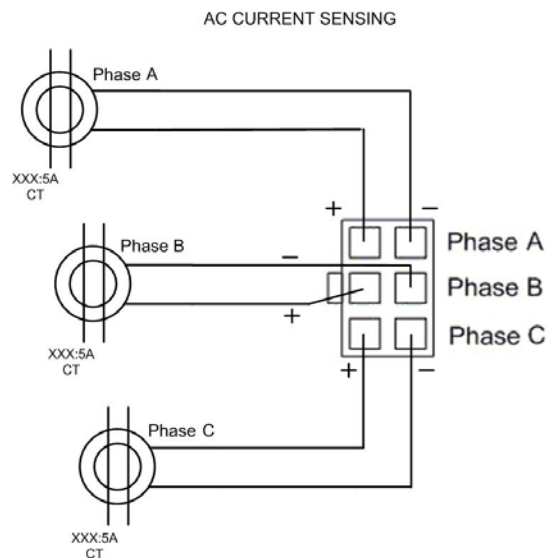
- Phase A to terminals Phase A\*
- Phase B to terminals Phase B\*
- Phase C to terminals Phase C\*

In center tapped delta applications

- Phase A to terminals Phase A\*
- Phase B to terminals Phase B\*
- Phase C to terminals Phase C\*

\*White wire assumed positive

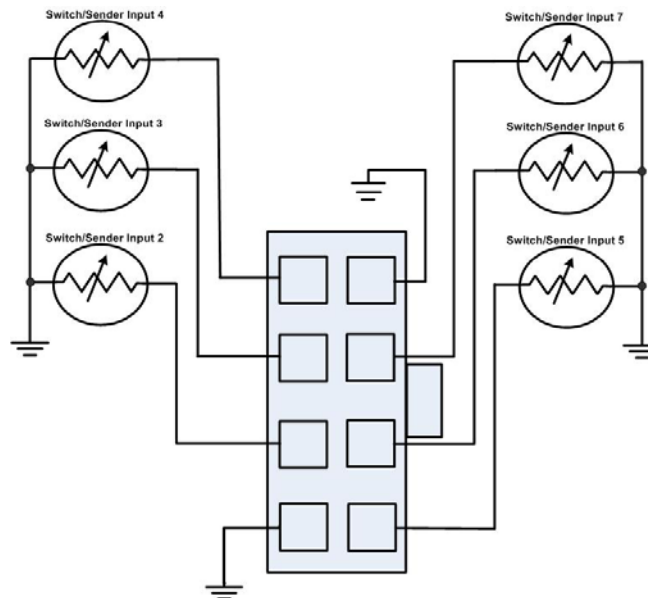
\*Black wire assumed negative



CT Description	Stock Code	Part # Description
100A:5A	ACC0045	PC&S-546-100-L
200A:5A	ACC0046	PC&S-546-200-L
300A:5A	ACC0047	PC&S-546-300-L
500A:5A	ACC0048	PC&S-546-500-L
600A:5A	ACC0049	PC&S-546-600-L
1000A:5A	ACC0050	PC&S-D-1000-L
1500A:5A	ACC0057	PC&S-A-1500-L

**Engine sending units:**

Engine Sensors are required if engine parameters are necessary to be displayed on the GSC400 controller. Some examples of engine senders are oil pressure, engine temperature, fuel level, oil level. Typical wiring connections are as follows:



NOTE: Switch/Sender Input 3 and 4 are Low impedance  
Switch/Sender Input 2, 5, 6 and 7 are High impedance



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Sender Description	Stock Code	Part # Description
Datcon – Oil Pres	ACC0074	Datcon-102225 1/8”-27 NPTF
Datcon - Temp	ACC0027	Datcon-02022-00 1/8”-27 NPTF
VDO – Oil Pres	ACC0064	VDO-360-004 1/8”-27 NPTF
VDO - Temp	ACC0058	VDO-323-421 1/8”-27 NPTF

## GSC400 12/24VDC SYSTEM OPERATION

The GSC400 controller is designed to operate in either 12 or 24 VDC system voltages. When operating in 12VDC systems the fuel, crank and extra relays need to be the proper 12VDC relay type. When operating in 24VDC systems these relays need to be the proper 24VDC relay type.

Approved relays for 12 or 24VDC system operation are as follows:

Relay Description	Stock Code	Part # Description
12VDC AZETTLER	RLY0029	AZ-973-1C-12DC
24VDC AZETTLER	RLY0043	AZ-973-1C-24DC


## GSC400 Fusing

Output relays are protected by onboard 40A fuse protection.

Smaller amperage fuses from an automotive supplier may be used in place of the higher current 40A. When installing lower amperage fuse protection be certain that current draw does not exceed the fuse current limit.

40 Amp Fuse replacement type as follows:

Fuse Description	Stock Code	Part # Description
40A, 32VDC Auto Fast Action	FUS0012	Littlefuse-257040

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### GSC400 Product Number Identification:



The GSC400 series product numbering scheme provides significant information pertaining to a specific model. The product Number Identification Table (see Table 1) provides the required interpretation information. An example is offered to initially simplify the process.

A product number GSC400-X-XX-XX would consist of a combination of information from the following table.

TABLE1: IDENTIFICATION TABLE

Position 1-6	Position 8	Position 10-11	Position 13-14
Series	Place Value	DC Voltage	Labeling
GSC400=GSC400	No Meaning	12=12VDC	LS=Standard LX=Customized

**Example:** The product number GSC400-0-12-LS would be described as follows:

A GSC400 series automatic engine controller configured for a 12 VDC system, which includes standard labeling.

A GSC400 serial number would be displayed as:

GSC400-0-12-LS-00000



## NOTE: GSC400 STANDARD 12VDC SHIPMENTS

GSC400 series engine controllers are shipped to the customer as standard 12VDC units. 12VDC relays are installed as standard relays. If customer requires the unit to be installed in a 24VDC system, optional 24VDC relays must be purchased by the customer.

## GSC400 MASTER ACCESSORIES CHART

### GSC400 WIRE HARNESS

Harness Description	Stock Code	Harness Length
Standard Cable Set (Includes CT current sensing, Digital input and Analog input cables)	ACC0086	5 Feet
Digital Output	DWG1377R2-5	5 Feet
RS485	DWG1374R2-5	5 Feet
J1939	DWG1373R2-5	5 Feet

### GSC400 PROGRAMMER

Programmer Description	Stock Code
USB/SERIAL Programmer	GSC400-PGMR

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**Doc Type**External  
Accessories**Rev Num**

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## GSC400 CURRENT TRANSFORMER

CT Description	Stock Code	Part # Description
100A:5A	ACC0045	PC&S-546-100-L
200A:5A	ACC0046	PC&S-546-200-L
300A:5A	ACC0047	PC&S-546-300-L
500A:5A	ACC0048	PC&S-546-500-L
600A:5A	ACC0049	PC&S-546-600-L
1000A:5A	ACC0050	PC&S-D-1000-L
1500A:5A	ACC0057	PC&S-A-1500-L

## GSC400 SWITCH/SENDER

Sender Description	Stock Code	Part # Description
Datcon – Oil Pres	ACC0074	Datcon-102225 1/8”-27 NPTF
Datcon - Temp	ACC0027	Datcon-02022-00 1/8”-27 NPTF
VDO – Oil Pres	ACC0064	VDO-360-004 1/8”-27 NPTF
VDO - Temp	ACC0058	VDO-323-421 1/8”-27 NPTF

## GSC400 RELAY

Relay Description	Stock Code	Part # Description
12VDC AZETTLER	RLY0029	AZ-973-1C-12DC
24VDC AZETTLER	RLY0043	AZ-973-1C-24DC

## GSC400 FUSE

Fuse Description	Stock Code	Part # Description
40A, 32VDC Auto Fast Action	FUS0012	Littlefuse-257040