

# TopInfo

## Solar System Controls and Accessories



The SCU solar system control series offers options for any type of system, from basic single-load installations to complex multi-load systems with demanding requirements. With their large LCD displays, SCU controls are user-friendly and provide industry leading solar system safety, performance and efficiency.

All controls incorporate variable speed pump control, preprogrammed configurations, collector glycol cooling function, heat rejection loop control, energy meter and VBus accessories. The SCU 345 control also provides data logging to an internal SD memory card, and an optional SEM flow meter kit can be added for precise energy metering or used as a standalone unit.

**SCU 124/SCU 224 solar system controls for basic single- and multi-load systems**

The SCU 124 and SCU 224 solar system controls are ideal for basic systems with two semiconductor relay outputs and four sensor inputs. The single-load SCU 124 control features three basic, preprogrammed system configurations for easy planning and installation. For basic multi-load systems or east-west collector arrays, the SCU 224 control is an ideal choice. It features an additional delta-T for control of second relay, as well as 10 preprogrammed system configurations for ultimate installation flexibility.



SCU 124/SCU 224 Solar System Control



With SD card capabilities\*, the SCU345 control allows you to view system data on your PC. Adjustable logging intervals from one second to 20 minutes.

**SCU 345 solar system control for multi-load, east-west and commercial arrays**

The SCU 345 is an advanced solar system control for multi-load systems, east-west collector arrays and commercial solar systems. This advanced solar system control features four relay outputs and adjustable delta-T and time controlled thermostat functions for limitless configuration possibilities. The SCU 345 control is compatible with a number of system accessories designed for system monitoring, analytics and additional control.



SCU 345 Solar System Control



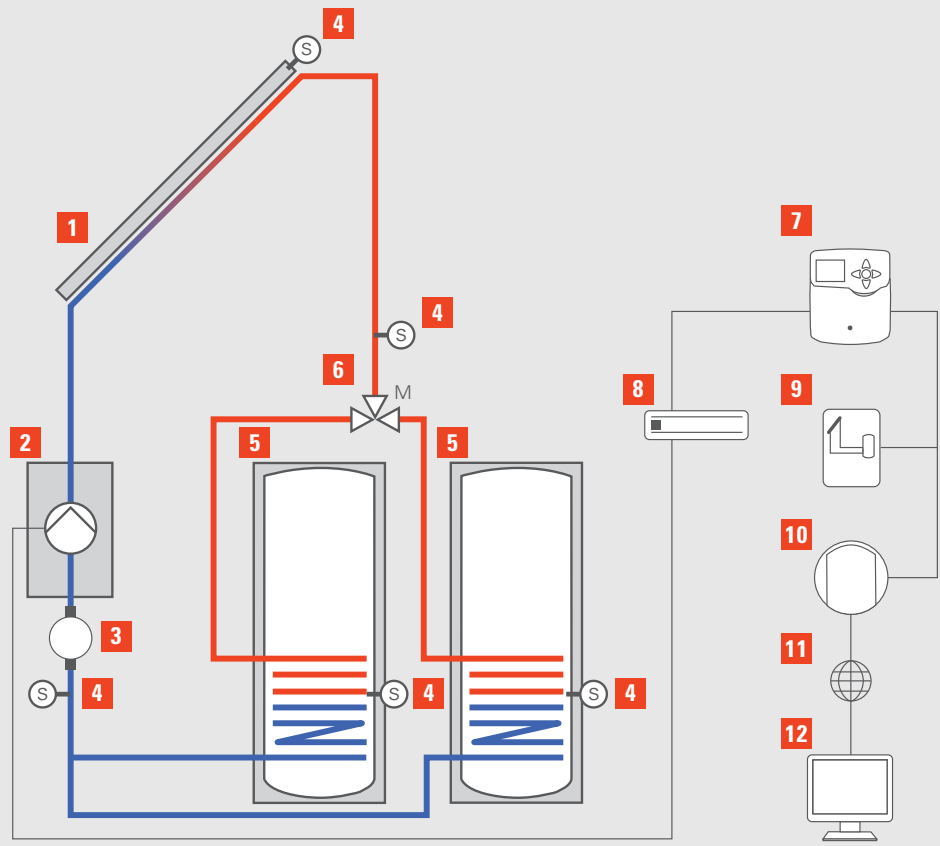
V40 Flowmeter Kit includes two sensors and two sensor wells. For use with SCU 345 or SEM.

Control Section Guide			
Model	SCU 124	SCU 224	SCU 345
Relay outputs	2	2	4
Variable speed pump	✓	✓	✓
Sensor inputs	4	4	5
System configurations	3	10	9
Number of heat loads (tanks)	1	2	3
Number of differentials	1	2	3
Heat dissipater layout	✓	✓	✓
Energy meter	✓	✓	✓
Pump hour counter	✓	✓	✓
Collector cooling	✓	✓	✓
Night tank cooling	✓	✓	✓
V-Bus accessories	✓	✓	✓
Internal SD card	-	-	✓
Flowmeter option	-	-	✓

\*Field supplied.



**Sample System Layout — with optional accessories shown**



- 1 Vitosol solar collector
- 2 Solar-Divicon
- 3 V40 Flowmeter Kit
- 4 Temperature sensor
- 5 Vitocell solar tank
- 6 Motorized diverting valve
- 7 SCU 345 control
- 8 VBus/PWM Interface
- 9 Smart Display
- 10 Datalogger
- 11 Internet
- 12 PC

**Solar Energy Meter**

With input from the V40 Flowmeter and two system sensors, the Solar Energy Meter (SEM) records the energy yield and flowrate produced by your solar system. Heat quality calculations displayed on the large screen are also stored in the internal memory or transmitted to the Datalogger or PC using VBus communication.



Solar Energy Meter

**SCU Control Accessories**



VBus/PWM Interface Adaptor allows for control of a high efficiency pump.



Smart Display shows collector and tank temperature and energy production in real time.



Datalogger stores 180 MB of operational details. SD card\* or ethernet for data extraction.

\*Field supplied.

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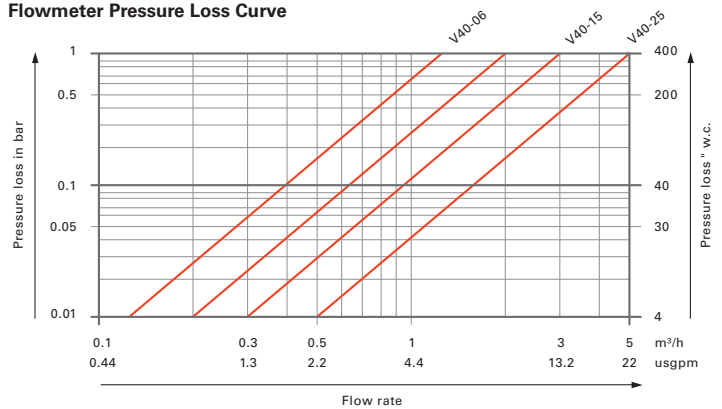
## V40 Flowmeter Technical Data

### Flowmeter Sizing

Three Flowmeter Kit sizes available; flowmeter must be sized to match flow rate of system.

Flowmeter Model	V40-06	V40-15	V40-25
Minimum flow rate	0.1 usgpm	0.3 usgpm	0.5 usgpm
Maximum practical flow rate recommended	2.4 usgpm	5.3 usgpm	9.7 usgpm
Maximum number of Vitosol Flat Plate Solar Collectors	6	14	24
Maximum number of Vitosol Vacuum Tube Solar Collectors	90	180	360
Pressure loss at maximum recommended flow rate	80" w.c.	80" w.c.	80" w.c.

### Flowmeter Pressure Loss Curve



### V40 Flowmeter Kit

