

Electrical Notes (1)

Regional requirements for low voltage cables:

Many jurisdictions require contractors to hold a specific license to install fire protection systems. In California, a C-16 license is required. However, because Automist installations involve electrical connections—such as 24V data cables between spray heads—contractors often ask whether an additional electrical license, such as a C-7 (low voltage license) or C-10 (electrical license), is necessary.

Is an Electrical License Required for Automist Installations? No. An additional electrical license is not required because the electrical connections are part of the fire suppression system rather than an independent electrical installation. However, only C-16 license holders should be responsible for installing Automist in homes, reinforcing that fire protection professionals should oversee the entire system.

Clarification from the California Licensing Board:

To confirm this requirement, the California Licensing Board was consulted, and their response states: “Based on the information provided, it is acceptable for specialty contractors, including C-16 Fire Protection contractors, to perform work in other trades that is incidental but essential to completing projects they are otherwise licensed to perform. The low voltage work described appears to be incidental to the installation of the system.”

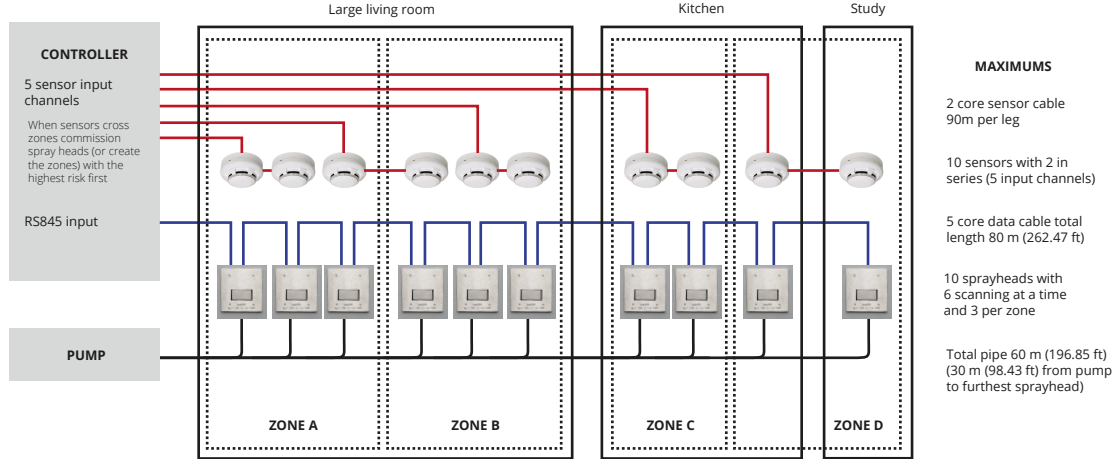
Supporting Legal References:

The California Business and Professions Code Section 7059 states: “Nothing in this section shall prohibit a specialty contractor from executing a contract involving two or more crafts or trades if the work in additional trades is incidental and supplemental to the craft for which the specialty contractor is licensed.” Additionally, Board Rule 831 further clarifies: “For purposes of Business and Professions Code Section 7059, work in other classifications is considered ‘incidental and supplemental’ if it is essential to accomplishing the work in which the contractor is classified. A specialty contractor may use subcontractors to complete the incidental work or use their own employees.”

NFPA 72 - Spot-Type Smoke Detector Spacing and Mounting Location for Various Ceiling Types

Ceiling Slope	Ceiling Construction	Special Conditions	Detector Spacing, S	Detector Mounting Location
Level (slope ≤1-in-8)	Smooth ceiling up to a height of 40 ft (12.2 m)	—	One of the following: 1. ≤30 ft (9.1 m) between detectors and ≤½ spacing from walls within 15% of ceiling height. 2. All points within 70% of the nominal 30 ft (9.1 m) spacing. Maximum coverage area adjusted for high air movement in accordance with 17.7.7.3 where appropriate.	Ceiling or sidewall within 12 in. (300 mm) of the ceiling
	Solid joist, beam, or intersecting beam; beam depth <10% of ceiling height	—	Apply spacing for a level ceiling with smooth construction	For beams/intersecting beams: Ceiling or bottom of beams For solid joists: Bottom of joists
	Solid joist, beam, or intersecting beam; beam depth ≥10%; beam spacing ≥40% of ceiling height	Corridor 15 ft (4.6 m) wide or less with beams perpendicular to corridor	In each beam pocket	Ceiling
		Room 900 ft² (84 m²) or less	Apply spacing for a level ceiling with smooth construction	Ceiling or sidewall within 12 in. (300 mm) of ceiling or bottom of beams/joists
		—	Apply spacing for a level ceiling with smooth construction	Ceiling or bottom of beams/joists
	Solid joist, beam, or intersecting beam; beam depth ≥10%; beam spacing <40% ceiling height	—	Spacing parallel to beams: apply spacing for a level ceiling. Spacing perpendicular: apply one-half spacing.	For beams/intersecting beams: Ceiling or bottom of beams For solid joists: Bottom of joists
Shed or Peaked		Corridor 15 ft (4.6 m) wide or less with beams perpendicular to corridor	Apply spacing for a level ceiling with smooth construction	Ceiling or sidewall within 12 in. (300 mm) of ceiling or bottom of beams/joists
	Smooth ceiling	—	Apply spacing based on horizontal projection. Locate a row within 36 in. (910 mm) of the peak.	Ceiling
	Solid joist/beam parallel to slope; beam depth <10% average ceiling height	—	Apply spacing based on horizontal projection. Locate row within 36 in. (910 mm) of peak.	For beams: Ceiling For solid joists: Bottom of joists
	Solid joist/beam parallel to slope; beam depth ≥10%; beam spacing <40% average ceiling height	—	Perpendicular: one-half spacing. Parallel: level ceiling spacing. Locate row within 36 in. (910 mm) of peak.	For beams: Ceiling For solid joists: Bottom of joists

Technical Limitations Summary



ADDRESS:

CONTRACTOR:

AREA DETAILS

TOTAL:

HIGHEST CEILING HEIGHT:

SYSTEM DETAILS

PUMP COVERAGE:

UNPROTECTED AREA:

SPECIFIER:

EMAIL:

CHECKED BY:

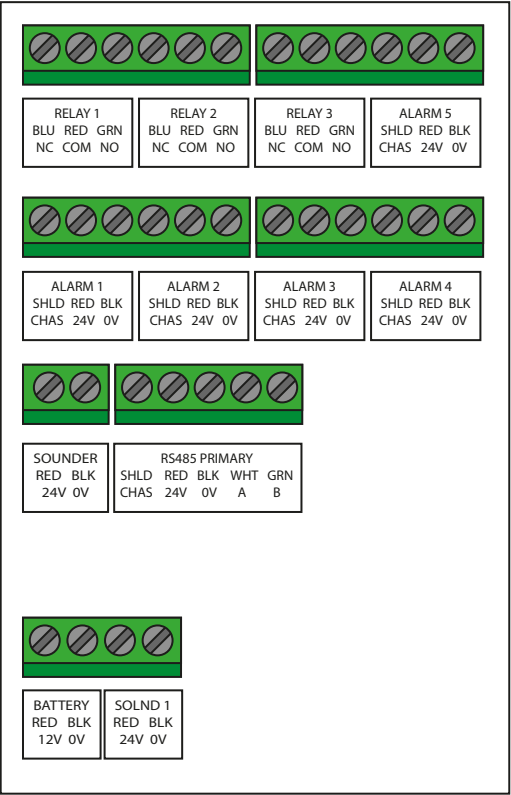
DATE:

KEY

- SMOKE SENSOR (21)
- PUMP AP12 (3)
- SPRAYHEAD SH12 (24)
- CONTROLLER CT03 (3)
- ZONE TO CONSIDER
- PROTECTED AREA
- STERILE AREA
- DOOR
- WINDOW
- SMOKE SENSOR WIRE 18/2
- DATA WIRE 2466c ALHPA
- PIPE/HOSE
- HOB
- FIRE HAZARD
- OVEN
- T-PIECE
- UNION
- ELBOW
- LIGHTSWITCH
- CROSS

Electrical Notes (2)

Controller Terminals



Name	Type	Description
Relay Contact 1	Output (volt-free)	Activates when a fault is detected including AC power loss 30 VDC 1Amp Max
Relay Contact 2	Output (volt-free)	Activates when the system is scanning. 30 VDC 1Amp Max
Relay Contact 3	Output (volt-free)	Activates when the system is spraying. 30 VDC 1Amp Max
Alarm 1-5	Input / Output	Connects the controller to the smoke sensors. A maximum of 2 smoke sensors can be connected in series to one alarm output. N.B. Connect the shield to the SHLD terminal. Do not terminate the shield at the sensor end of the cable. 24V DC max load is 100 mA per channel
RS485 Primary	Input / Output	Connect the data cable from the controller to the spray heads. Provides RS485 communication, 24 V power supply and earth connection to the heads. Max Load is 500mA (continuous) 1.2A (1 Hour)
RS485 Secondary	n/a	Not active / Do not use
Solenoid 1	Output	Connection to 24 V solenoid. Connect the solenoid cable from the pump red 24V + black 0V -
Solenoid 2	n/a	Not active / Do not use
AC Power In	Input	230V AC 50 Hz / 240V 60 Hz power supply input
Battery	Input / Output	Connection to 12 V battery. Connect the battery leads red 12+ and black 0V –
Pump Out	Output	Power output for the pump motor
Sounder Circuit	Output	24 VDC 220 mA maximum load. 4.7K, 1W (minimum), $\pm$ 5% EOL resistor to be fitted
USB	USB	Plumis use only
Pressure sensor	n/a	Not active / Do not use

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Standard Equipment Details (1)

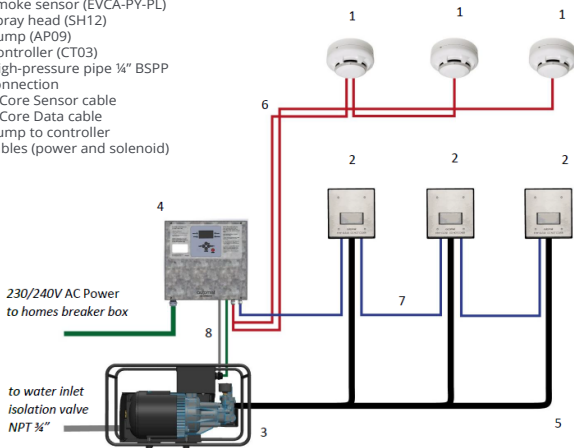
4.4 Spray Head



Figure 5: Spray head (SH12)

Spray head Software Version	v3.4_AH-0-e339155
Weight	1.4 kg
Size (main body)	133 mm (5.23 inch) (height) x 50 mm (1.96 inch) (depth) x 128 mm (5.03 inch) (width)
Size (back box)	119 mm (4.68 inch) (height) x 60 mm (2.36 inch) (depth) x 103 (4.05 inch) mm (width)
Operating Pressure	76 – 100 bar (1102 – 1450 Psi)
Flow rate	9 litres (2.37 gal) per minute
Spray Pattern	90° vertical blade
K Factor (Nominal)	1.04 lpm/V (bar) 0.072 gpm/V(psi)
Minimum nozzle waterway	1 mm
Input Voltage	24 VDC (reversed voltage protected)
Input Current	Max 0.5 A
Mounting	Indoor wall-mounted
Temperature & Humidity	Indoor, dry

1. Smoke sensor (EVCA-PY-PL)
2. Spray head (SH12)
3. Pump (AP09)
4. Controller (CT03)
5. High-pressure pipe ¼" BSPP connection
6. 2 Core Sensor cable
7. 5 Core Data cable
8. Pump to controller cables (power and solenoid)



4.6 Controller

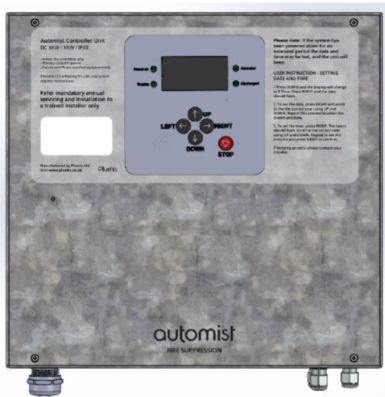


Figure 8: Automist Controller (CT03)

Automist Controller Specification

Input Supply	Single phase
Input Voltage	230V AC 50 Hz 240V AC 60 Hz
Input Current Standby mode	Up to 0.5 A
Input Current Scanning mode	Up to 0.5 A
Input Current Pumping mode	13.7 A with 230V AC 50Hz pump (AP09) 11.6 A with 240V AC 60Hz pump (AP12)
Input Current Controller Inrush	60 A peak
Input Current Motor Starting	75 A peak <150ms
Input Current Locked Rotor	52 A <30 s (motor protected by thermal fuse)
Overload Protection	Protection is provided by incoming power feed 20A MCB, no breakers inside the control unit. MCB is current limiting type with limitation class 2.
Safety Classification	Class I device, Earth must be fitted!
Overvoltage Category	Overvoltage Category II (transient protection via MOVs and GDTs to Earth/Ground)

Automist High Pressure Hose

General information
The Automist High Pressure Hose is specified for use in Automist fire suppression system. The specifications need to be followed so that the acceptable level of pressure loss, discharge delay and protection to damage is ensured.



Technical Specifications

Nominal Diameter	5/16"
Standard	SAE 100R2AT
Inner tube	Synthetic oil resistant rubber
Cover	Weather and oil resistant rubber
Temperature min. °C	-40
Temperature max. °C	100
Reinforcement	Two braids of steel wire
Working pressure	180 bar (2600 psi) min
Burst pressure	720 bar (10400 psi) min
Minimum bend radius (MBR)	115mm (4.53")
Safety factor	4:1
Fittings	5/16" or ¼" BSPP
Fitting for spray head	¼" BSPP

4.5 Pump

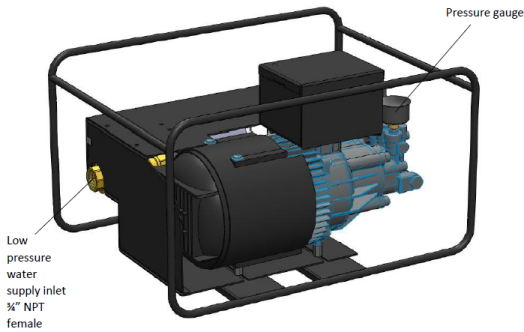


Figure 6: Pump isometric view (AP09)

Weight	23 kg
Size	250 mm (9.84 inch) (height) x 300 mm (11.81 inch) (depth) x 400 mm (15.74 inch) (width) 76 – 100 bar (1102 – 1450 Psi)
Output Pressure	
Flow rate	9 litres per minute (2.37 Gallons) per minute
Inlet Pressure (Dynamic)	1 – 3 bar (14.5 – 43.51 Psi)
Rated Motor Speed	2800 rpm
Input Voltage Pump	230V AC/50Hz
Input Current Pump	Max 13.5 amp
Input Power Pump	Max 3 Kw
Input Voltage Solenoid	24 VDC
Type of Solenoid	Normally closed (NC)
Temperature & Humidity	Indoor, dry

Automist Smoke Sensor (DT03)

General information
The Automist Smoke Sensor is designed for use in Automist fire suppression system only. The smoke sensor is ceiling-mounted and is used to initiate the scanning function of the spray head.

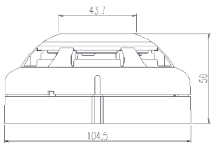


Technical Specifications

Compatible Bases

- EVA-UB4 – Standard Base
EVA-UB4-6 – Standard Base

Dimensions (mm)



Data

Smoke Sensor Type	Optical Light Scatter
Smoke Sensor Element	Light Emitting Diode
Smoke Sensitivity Range	1.47 ± 0.32 %/ft
Operating voltage	10 Vdc to 30 Vdc
Quiescent current	40µA @ 24 Vdc
Alarm current	48µA @ 24 Vdc
Remote LED current	2.0mA
Charging Time	20 seconds
Operating temperature	-10°C to +37.8°C (14°F to 100°F)
Storage temperature	-25°C to +60°C
Relative humidity	RH 95%
Material	FR-ABS
Material Specification (UL94)	V-2
Dimensions	104.5x59 mm (inc Base)
Mass	118 g (Sensor Only)

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