

FUSION-H

Clock / Timer Large Digit Display



KEY FEATURES

- 4 or 6 digits
- 5 digit colours available
- Indoor or outdoor brightness
- Automatic Summer and Winter time correction
- Free-running or synchronised
- Various operating modes
- IP65 sealed
- Viewing distances up to 600m (1,968 feet)
- AC or DC powered
- Wall, suspension or panel mounting
- Alarm output, analogue output and data output options

DESCRIPTION

FUSION large digit displays are primarily used for displaying numerical information which is visible from a distance. In addition, the displays have several analogue, alarm and data output options which can work with systems already in situ to control processes within the system.

The FUSION-H is available as 4 or 6 digits and can work in clock, calendar or timer mode. These are ideal in Takt timing applications, process curing and as count-down displays to a big event. They are also ideal for showing factory safety data such as days since last accident, with automatic day counting and simple preset and reset functions.

OPERATING MODES

Mode	Digit Format	Description
Clock	HH:MM / HH:MM:SS	Real time clock. Can be set as 12 or 24 hour clock. Daylight saving time can be set to OFF, Europe or US
Calendar	DD.MM.YY	Shows today's date in UK format
Calendar	MM.DD.YY	Shows today's date in US format
Day Counter	8888 / 888888	Counts up or down by 1 each day. Useful for counting days since last accident or days until an event
Timer	HH:MM	Counts up or down in hours and minutes
Timer	HH:MM:SS	Counts up or down in hours, minutes and seconds
Timer	MM:SS	Counts up or down in minutes and seconds
Timer	MMMM	Counts up or down in minutes
Timer	SSSS	Counts up or down in seconds
Timer	SSS.t	Counts up or down in seconds to 1/10 second resolution
Timer	SSSSS.t	Counts up or down in seconds to 1/10 second resolution

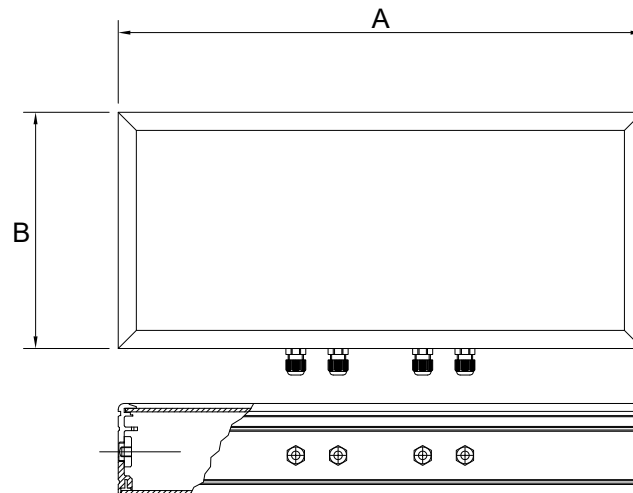
Notes:

- Be sure to select the correct number of digits for your application, either 4 or 6 digits
- Be sure to select the correct digit format for your application, either colons separating digits or decimal points separating digits

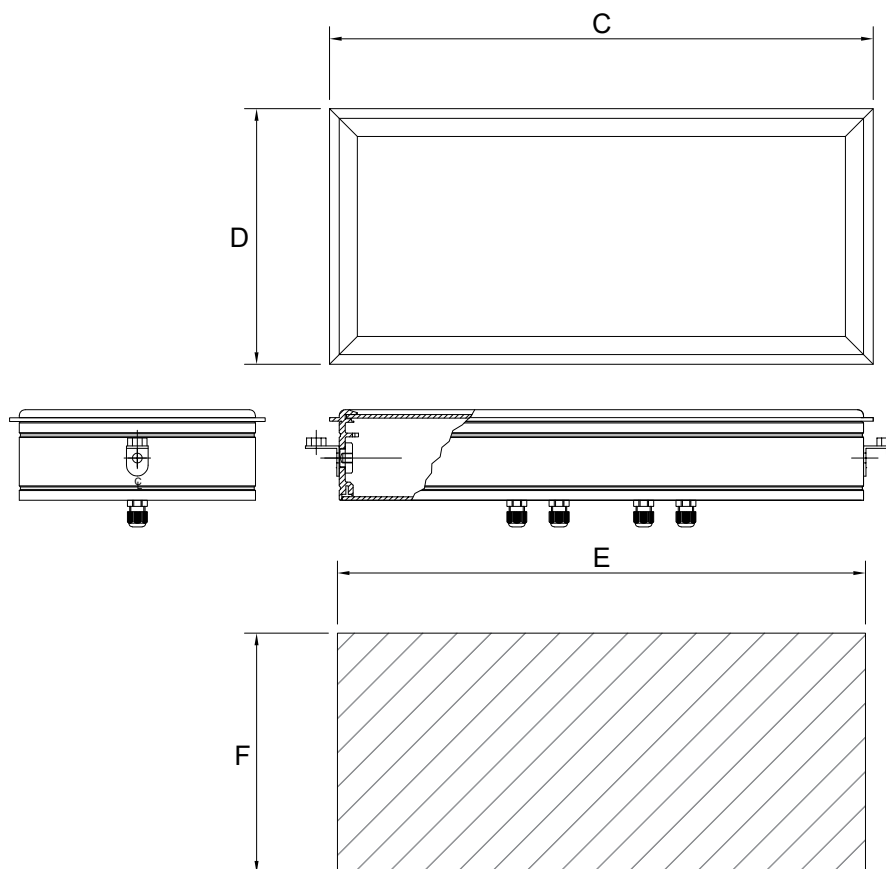


DIMENSIONAL DRAWINGS

Wall or Suspension Mounting



Panel Mounting



Notes:

- Refer to dimensions on next page
- Enclosure depth is 75mm
- Allow at least 100mm behind the panel for panel mounting displays



DIMENSIONS and WEIGHTS (mm) (kg)

		Wall or Suspension Mounting		Panel Mounting Bezel		Panel Mounting Cutout		
Model	Digit Format	Width (A)	Height (B)	Width (C)	Height (D)	Width (E)	Height (F)	Weight
F2-4N FB	2" 4 digit	279.5	154.5	297.5	172.5	282.5	157.5	2
F2-4N UM FB	2" 4 digit UM option	376	154.5	394	172.5	379	157.5	2.5
F2-6N FB	2" 6 digit	376	154.5	394	172.5	379	157.5	3
F2-6N UM FB	2" 6 digit UM option	504	154.5	522	172.5	507	157.5	3.5
F4-4N FB	4" 4 digit	434	195.5	452	213.5	437	198.5	3
F4-4N UM FB	4" 4 digit UM option	616	195.5	634	213.5	619	198.5	3.5
F4-6N FB	4" 6 digit	616	195.5	634	213.5	619	198.5	4.5
F4-6N UM FB	4" 6 digit UM option	824	195.5	842	213.5	827	198.5	5
F6-4	6" 4 digit	580	246	598	264	583	249	4
F6-4 UM	6" 4 digit UM	820	246	840	264	823	249	5
F6-6	6" 6 digit	820	246	838	264	823	249	6
F6-6 UM	6" 6 digit UM	1060	246	1080	264	1063	249	7
F8-4	8" 4 digit	750	290	768	308	753	293	6
F8-4 UM	8" 4 digit UM	1072	290	1092	308	1075	293	7
F8-6	8" 6 digit	1072	290	1090	308	1075	293	8
F8-6 UM	8" 6 digit UM	1395	290	1274	308	1257	293	9
F12-4	12" 4 digit	1058	408	1068	426	1053	411	8
F12-4 UM	12" 4 digit UM	1535	408	1560	426	1543	411	10
F12-6	12" 6 digit	1535	408	1558	426	1543	411	12
F12-6 UM	12" 6 digit UM	1722	408	1742	426	1725	411	14
F16-4	16" 4 digit	1368	515	1386	533	1371	518	12
F16-4 UM	16" 4 digit UM	2020	515	2040	533	2023	518	14
F16-6	16" 6 digit	2020	515	2038	533	2023	518	16
F16-6 UM	16" 6 digit UM	2202	515	2222	533	2205	518	18
F24-4	24" 4 digit	1975	750	-	-	-	-	20
F24-4 UM	24" 4 digit UM	2963	750	-	-	-	-	22
F24-6	24" 6 digit	2963	750	-	-	-	-	22
F24-6 UM	24" 6 digit UM	3950	750	-	-	-	-	23
F32-4	32" 4 digit	2556	946	-	-	-	-	24
F32-4 UM	32" digit UM	3834	946	-	-	-	-	28
F32-6	32" 6 digit	3834	946	-	-	-	-	36
F32-6 UM	32" 6 digit UM	5112	946	-	-	-	-	40
F48-4	48" 4 digit	3436	1300	-	-	-	-	32
F48-4 UM	48" 4 digit UM	5154	1300	-	-	-	-	38
F48-6	48" 6 digit	5154	1300	-	-	-	-	48
F48-6 UM	48" 6 digit UM	6872	1300	-	-	-	-	54

Notes:

- 2" 4 digit displays with any output options fitted require a wider enclosure (UM option)
- 2" 4 digit and 4" 4 digit displays with any HEATER options fitted require a wider enclosure (UM option)
- All displays with 48V AC power option require a wider enclosure (UM option)
- O & OE



TECHNICAL DATA

Digit Height (inches)	2.2 (F2)	4.0 (F4)	5.9 (F6)	7.9 (F8)	11.8 (F12)	15.7 (F16)	23.6 (F24)	31.5 (F32)	47.2 (F48)
Digit Height (millimeters)	57	102	150	200	300	400	600	800	1200
Viewing Distance (feet)	82	180	262	360	508	672	1,000	1,328	1,968
Viewing Distance (metres)	25	55	80	110	155	205	305	405	600
Number of Digits	4 or 6								
Digit Format	8.8.8.8., 8.8.8.8.8.8.								
Input Signal	Real time clock module (DS3231SN)								
Accuracy	Better than +/- 10 seconds per month								
Battery Backup	CR1620 3V Lithium (retains time in memory during power loss but display is not lit)								
Digit Colour	Blue, green, red, white or yellow								
Brightness	Indoor or outdoor with 7 levels of adjustment								
Power Supply	95-265V AC (standard), 11-30V DC (optional), 48V AC (optional)								
Power Burden	40VA maximum								
Mounting	Brackets supplied for wall, suspension or panel mounting								
Front Panel Controls	Up to 200mm high digits, above 200mm high digits requires an optional wired or wireless controller								
Logic Inputs	3 x NPN or contact closure for START, STOP and RESET when used in timing mode								

Environmental

Enclosure Material	Heavy duty welded uPVC
Lens Material	Acrylic
Sealing	IP65
Storage Temperature	-20°C to +70°C, non-condensing
Operating Temperature	0°C to +50°C, non-condensing
Extended Operating Temperature	-25°C to +50°C, non-condensing (with optional heater fitted inside display)
Connectors	Internal detachable screw terminal connectors accessed via compression glands

Analogue Output (optional)

ANB Option	-10 to +10V into loads >1k Ohms, resolution 0.4mV
ANI Option	0-20mA or 4-20mA into loads <500 Ohms, resolution 0.4uA
ANV Option	0-10V into loads >1k Ohms, resolution 0.2mV
Scaling	Fully adjustable, direct or inverse. Can be derived from GROSS or NETT value
Response Speed	Derived from displayed value, updated x10 per second, display filtering applies to analogue output
Linearisation	Derived from displayed value
Isolation	250V AC optically isolated from input, logic, excitation, power, alarms and data output ports
Accuracy	+/- 0.1% of range
Linearity	+/- 0.02% of range
Stability	+/- 50ppm/°C

Alarm Outputs (optional)

AL2 and AL4 Option	2 or 4 x SPST mechanical relays, 2A @ 250V AC, resistive load
DSS and QSS Option	2 or 4 x solid state relays, specify AC or DC, 100mA max @ 250V AC, 500mA max @ 60V DC
SPCO Option	2 x SPCO mechanical relays, 2A @ 250V AC, resistive load
Response Speed	For mechanical relays allow 105mS, for solid state relays allow 100mS

Data Output (optional)

232 Option	RS232 ASCII
485 Option	RS422/RS485 ASCII + Modbus ASCII
RTU Option	Modbus RTU
Response Speed	Derived from displayed value, updated x10 per second, display filtering applies to data output
Isolation	250V AC optically isolated from input, logic, excitation, power, alarms and analogue output ports



ORDERING GUIDE

Digit Height:		X	- X	- H	- X	- X	- X	- X	- X
F2 2 inches (57mm)	F4 4 inches (102mm)								
F6 6 inches (150mm)	F8 8 inches (200mm)								
F12 12 inches (300mm)	F16 16 inches (400mm)								
F24 24 inches (600mm)	F32 32 inches (800mm)								
F48 48 inches (1200mm)									
Digit Format:									
4N 8.8.8.8. - 4 digit, numeric format									
6N 8.8.8.8.8.8 - 6 digit, numeric format									
Function / Input Type:									
H Clock / Timer									
Analogue Output:									
0 None ANB -10 to +10V ANI 4-20mA ANV 0-10V									
Alarm Outputs:									
0 None AL2 2 x SPST mechanical relays AL4 4 x SPST mechanical relays									
DSS 2 x solid state relays (specify AC or DC) QSS 4 x solid state relays (specify AC or DC)									
SPCO 2 x SPCO mechanical relays									
Data Output:									
0 None 232 RS232 485 RS422/485 + Modbus ASCII RTU Modbus RTU									
Digit Colour:									
Indoor									
B Blue 6" and above									
G Green									
R Red									
W White 6" and above									
Y Yellow									
Outdoor									
BDLV Blue 6" and above									
GDLV Green									
RDLV Red									
WDLV White 6" and above									
YDLV Yellow									
Power:									
48VAC 48V AC AC 95-265V AC DC 11-30V DC									
Mounting:									
Wall									
2 Cable glands on bottom									
2L Larger brackets, cable glands on bottom									
2SS 316 SS brackets, cable glands on bottom									
4 Cable glands on top									
4L Large brackets, cable glands on top									
10 Cable glands on rear									
7 Cable glands on bottom (includes wall and suspension brackets)									
8 Cable glands on top (includes wall and suspension brackets)									
Suspension									
3 Cable glands on bottom									
3BB Back to back, cable glands on bottom									
3SS 316 Stainless steel brackets, glands on bottom									
5 Cable glands on top									
5BB Back to back cable glands on top									
6 Cable glands on rear									
Panel									
1 Cable glands on rear									

