

Programmer replacement and wiring guide

Heating programmer replacement and wiring guide

If you're replacing a central heating programmer you could just fit what was there before, or go one better and fit a Secure controls. This handy guide shows you which of our programmers, from a straightforward electro mechanical unit to a 2-channel 7-day electronic programmer, is the perfect match. Often you can simply plug in without even having to rewire. Whichever one you select, you can be sure that it's well designed, beautifully engineered and bang up to date with the latest spec. You won't be replacing it in a hurry.

Using the Guide

First locate the existing programmer or timeswitch in the left hand column of the Programmer compatibility Guide. Then simply follow the colour coded line over to the far right to find the recommended Horstmann replacement. The colour of the line indicates if it is a direct plug-in replacement or not.

Wiring Comparison Table

Before removing any existing programmer it is essential to make a note of wire colours, terminal positions and numbers in relation to the existing backplate. The charts only include programmers or timeswitches where wiring changes are necessary when fitting our recommended replacement. Where a direct plug-in replacement is available or where terminal connections do not change, the appropriate replacement is shown on the Programmer Compatibility Guide.

Installation and connection should only be carried out by a suitably qualified person and in accordance with the current edition of the IET wiring regulations. The information contained in this manual is intended for guidance only and is believed to be correct. Secure Meters (UK) Limited can accept no liability for any errors or omissions and reserve the right to make changes at any time without notice.



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Programmer compatibility guide

KEY: Direct plug in replacement with simple wiring changes Replacement backplate but switch lives remain the same Replacement and re-wiring of backplate required

Please see wiring comparison tables located on product pages

Manufacturer Model		Electro-mechanical	Electronic	24 Hour	5/2 day	7 day	Single Channel	Two Channel	Single Circuit	Multi-Channel	Two Circuit	1.5 Circuits	Timeswitch	Mini-Programmer	Programmer	Common Time Base	Recommended replacement	
DANFOSS RANDALL	FP735Si				•	•			•						•		ChannelPlus H37 or H3747	
	FP715 Si		•		•	•		•							•		ServicePlus S27R or C1727	
	102	•		•			•				•	•				•	CentaurPlus C27 or C1727	
	102E		•	•			•				•	•				•	CentaurPlus C27 or C1727	
	102E5		•	•	•		•				•	•				•	CentaurPlus C27 or C1727	
	102E7		•	•	•	•	•				•	•				•	CentaurPlus C27 or C1727	
	103	•		•			•		•				•			•	CentaurPlus C17 or C1727	
	103E		•	•			•		•					•			•	CentaurPlus C17 or C1727
	103E5		•	•	•		•		•					•			•	CentaurPlus C17 or C1727
	103E7		•	•	•	•	•		•					•			•	CentaurPlus C17 or C1727
	3001	•		•			•		•					•		•		ChannelPlus H17XL or H3747
	3002	•		•			•		•							•	•	ChannelPlus H17XL or H3747
	3060	•		•			•		•		•	•				•	•	CentaurPlus C27 or C1727
	4033	•		•			•		•						•		•	CentaurPlus C27 or C1727
	3020P	•		•			•		•		•	•				•	•	CentaurPlus C27 or C1727
	911		•	•			•		•					•			•	CentaurPlus C17 or C1727
	917		•	•			•		•					•			•	CentaurPlus C17 or C1727
	922		•	•			•		•		•					•	•	CentaurPlus C27 or C1727
	971		•	•			•		•					•			•	CentaurPlus C17 or C1727
	972		•	•			•		•							•	•	CentaurPlus C27 or C1727
	CP15		•	•			•		•							•	•	CentaurPlus C27 or C1727
	CP75		•	•			•		•		•					•	•	CentaurPlus C27 or C1727
	CP715		•	•	•	•	•		•							•	•	CentaurPlus C27 or C1727
	FP15		•	•			•		•							•	•	CentaurPlus C27 or C1727
	FP75		•	•			•		•		•					•	•	CentaurPlus C27 or C1727
	FP715		•	•	•	•	•		•							•	•	CentaurPlus C27 or C1727
	FP975		•	•	•	•	•		•							•	•	ChannelPlus H27XL or H3747
	MP15		•				•		•			•				•	•	CentaurPlus C27 or C1727
	MP75		•				•		•			•			•		•	CentaurPlus C27 or C1727
	SET1/SET1E		•	•			•		•					•			•	ChannelPlus H17XL or H3747
	SET2/SET2E		•	•			•		•			•			•		•	ChannelPlus H27XL or H3747
	SET3E		•	•			•		•		•					•	•	ChannelPlus H27XL or H3747
	SET3M	•		•			•		•		•					•	•	ChannelPlus H27XL or H3747
	SET4		•	•			•		•					•			•	ChannelPlus H27XL or H3747
	SET5		•	•			•		•		•					•	•	ChannelPlus H27XL or H3747
	TS15		•	•			•		•					•			•	CentaurPlus C17 or C1727
	TS75		•	•			•		•					•			•	CentaurPlus C17 or C1727
	TS715		•	•	•	•	•		•					•			•	CentaurPlus C17 or C1727
	TS975		•	•	•	•	•		•					•			•	CentaurPlus C17 or C1727
	DRAYTON/ ACL/ INVENSYS	LP241Si		•	•				•							•		ServicePlus S27R or C1727
LP522Si			•	•	•			•							•		ServicePlus S27R or C1727	
LP722Si			•	•		•		•							•		ServicePlus S27R or C1727	
LP111Si			•	•			•		•				•			•	ServicePlus S17R or C1727	
LP711Si			•	•		•		•							•	•	ServicePlus S27R or C1727	
MT711R			•	•		•		•					•			•	CentaurPlus C17 or C1727	
MT721R			•	•		•		•							•	•	CentaurPlus C27 or C1727	
MT742R			•	•		•		•		•						•	•	ChannelPlus H37XL or H3747
LP 111			•	•			•		•					•			•	CentaurPlus C17 or C1727
LP 112			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
LP 241			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
LP 522			•	•	•		•		•		•					•	•	CentaurPlus C27 or C1727
LP 711			•	•			•		•					•			•	CentaurPlus C27 or C1727
LP722			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
LS 111			•	•			•		•					•			•	CentaurPlus C27 or C1727
LS 112			•	•			•		•			•			•		•	CentaurPlus C27 or C1727
LS 241			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
LS 522			•	•	•		•		•		•					•	•	CentaurPlus C27 or C1727
LS 711			•	•			•		•					•			•	CentaurPlus C27 or C1727
LS 722			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
FP			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
MP			•	•			•		•		•					•	•	CentaurPlus C27 or C1727
TC			•	•			•		•					•			•	CentaurPlus C17 or C1727
Switchmaster 300			•	•			•		•					•			•	CentaurPlus C17 or C1727
Switchmaster 320/350			•	•			•		•			•			•		•	CentaurPlus C27 or C1727
Switchmaster 400			•	•			•		•			•			•		•	CentaurPlus C27 or C1727
Switchmaster 600			•	•			•		•			•			•		•	CentaurPlus C27 or C1727
Switchmaster 805		•	•			•		•		•					•	•	CentaurPlus C27 or C1727	

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KEY: Direct plug in replacement with simple wiring changes Replacement backplate but switch lives remain the same Replacement and re-wiring of backplate required

Please see wiring comparison tables located on product pages

Manufacturer Model		Electro-mechanical	Electronic	24 Hour	5/2 day	7 day	Single Channel	Two Channel	Single Circuit	Multi-Channel	Two Circuit	1.5 Circuits	Timeswitch	Mini-Programmer	Programmer	Common Time Base	Recommended replacement	
DRAYTON /JCL /INVENSYS	Switchmaster 900/905	•		•			•				•					•	CentaurPlus C27 or C1727	
	Switchmaster 980	•		•			•		•				•			•	CentaurPlus C17 or C1727	
DRAYTON /JCL /INVENSYS	Switchmaster Sonata		•			•		•			•					•	CentaurPlus C27 or C1727	
	SM1	•		•			•		•				•			•	CentaurPlus C17 or C1727	
	SM2	•		•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 1		•	•			•		•				•			•	CentaurPlus C17 or C1727	
	Tempus 2		•	•			•		•				•			•	CentaurPlus C17 or C1727	
	Tempus 3		•	•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 4		•	•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 6		•	•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 7		•	•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 6-2		•	•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 7-2		•	•			•		•				•			•	CentaurPlus C27 or C1727	
	Tempus 1-Mk2		•	•			•		•				•			•	CentaurPlus C17 or C1727	
	Tempus 2-Mk2		•	•			•		•				•			•	CentaurPlus C17 or C1727	
	EPH	R17		•			•							•			•	CentaurPlus C17 or C1727
		T17		•			•							•			•	CentaurPlus C17 or C1727
T27			•			•							•			•	CentaurPlus C27 or C1727	
R27-HW			•			•							•			•	CentaurPlus C27 or C1727	
R37			•			•							•			•	ChannelPlus H37XL or H3747	
ESI	R47		•			•							•			•	ChannelPlus H47XL or H3747	
	ES1247B		•			•		•					•			•	CentaurPlus C27 or C1727	
	ES2247B		•			•		•					•			•	CentaurPlus C27 or C1727	
ESI	ES3247B		•			•							•			•	ChannelPlus H37XL or H3747	
GLOWORM	Masterminder		•			•		•					•			•	CentaurPlus C27 or C1727	
HONEYWELL	ST1000		•			•							•			•	ChannelPlus H27XL or H3747	
	ST1501		•			•							•			•	ChannelPlus H27XL or H3747	
	ST1507		•			•							•			•	ChannelPlus H27XL or H3747	
	ST6100A		•			•		•					•			•	CentaurPlus C17 or C1727	
	ST6100C		•			•		•					•			•	CentaurPlus C17 or C1727	
	ST6200A		•			•						•		•		•	CentaurPlus C27 or C1727	
	ST6300A		•			•							•			•	CentaurPlus C27 or C1727	
	ST6400C		•			•		•					•			•	CentaurPlus C27 or C1727	
	ST6450B		•			•		•					•			•	CentaurPlus C27 or C1727	
	ST699B Fully Pumped		•			•							•			•	CentaurPlus C27 or C1727	
	ST699B Gravity		•			•							•			•	CentaurPlus C27 or C1727	
	ST7000A		•			•						•		•		•	CentaurPlus C27 or C1727	
	ST7000B		•			•			•				•			•	CentaurPlus C27 or C1727	
	ST7100		•			•		•					•			•	CentaurPlus C27 or C1727	
	ST799A		•			•							•			•	CentaurPlus C27 or C1727	
	ST9100A		•			•			•				•			•	CentaurPlus C17 or C1727	
	ST9100C		•			•			•				•			•	CentaurPlus C17 or C1727	
	ST9400A		•			•							•			•	CentaurPlus C27 or C1727	
	ST9400C		•			•							•			•	CentaurPlus C27 or C1727	
	ST9500C		•			•							•			•	ChannelPlus H27XL or H3747	
HORSTMANN	423 Amethyst 10		•			•							•			•	CentaurPlus C27 or C1727	
	423 Amethyst 7		•			•							•			•	CentaurPlus C27 or C1727	
	423 Diamond		•			•							•			•	CentaurPlus C27 or C1727	
	423 Emerald		•			•			•				•			•	CentaurPlus C17 or C1727	
	423 Pearl Auto		•			•			•				•			•	CentaurPlus C17 or C1727	
	424 Coral		•			•							•			•	CentaurPlus C27 or C1727	
	424 Diamond		•			•						•				•	CentaurPlus C27 or C1727	
	424 Emerald		•			•							•			•	CentaurPlus C17 or C1727	
	424 Gem		•			•							•			•	CentaurPlus C27 or C1727	
	424 Pearl Auto		•			•							•			•	CentaurPlus C17 or C1727	
	425 Coronet		•			•							•			•	ChannelPlus H17XL or H3747	
	425 Diadem		•			•							•			•	ChannelPlus H27XL or H3747	
	425 Tiara		•			•							•			•	ChannelPlus H27XL or H3747	
	517		•			•							•			•	ChannelPlus H17XL or H3747	
	525		•			•							•			•	ChannelPlus H27XL or H3747	
	527		•			•							•			•	ChannelPlus H27XL or H3747	
	Centaur SC1		•			•							•			•	CentaurPlus C17 or C1727	
	Centaur SC7		•			•							•			•	CentaurPlus C17 or C1727	
	Centaur TC1		•			•							•			•	CentaurPlus C27 or C1727	
	Centaur TC7		•			•							•			•	CentaurPlus C27 or C1727	
	Centaur Plus C27		•			•							•			•	CentaurPlus C17 or C1727	
	Service Plus S27		•			•							•			•	CentaurPlus C17 or C1727	
	Channel Plus H27		•			•							•			•	H3727	
	MYSON	Microtimer One		•			•							•			•	CentaurPlus C27 or C1727
		Microtimer Seven		•			•							•			•	CentaurPlus C27 or C1727
		MEP1C		•			•							•			•	CentaurPlus C17 or C1727
		MEP2C		•			•							•			•	CentaurPlus C27 or C1727

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POTTERTON	EP 2000		•	•			•				•					•	CentaurPlus C27 or C1727	
	EP2001/EP2002		•		•		•				•					•	CentaurPlus C27 or C1727	
	EP3000		•			•	•				•					•	CentaurPlus C27 or C1727	
	EP3001/EP3002		•			•	•				•					•	CentaurPlus C27 or C1727	
	EP4000		•	•			•		•		•		•			•	CentaurPlus C27 or C1727	
	EP4001/EP4002		•		•		•		•		•			•		•	CentaurPlus C17 or C1727	
	EP5001/EP5002			•			•	•		•				•		•	CentaurPlus C17 or C1727	
	EP6000/EP6002		•				•		•		•					•	CentaurPlus C27 or C1727	
	Mini Minder		•					•								•	•	CentaurPlus C27 or C1727
	Mini Minder E			•	•			•			•					•	•	CentaurPlus C27
Mini Minder ES			•	•			•		•				•				CentaurPlus C17	
SALUS CONTROLS	EP100		•		•		•		•				•				CentaurPlus C17 or C1727	
	EP101		•		•		•		•				•				CentaurPlus C17 or C1727	
	EP200		•		•		•		•						•		CentaurPlus C27 or C1727	
	EP210		•		•		•		•						•		CentaurPlus C27 or C1727	
SANGAMO	M5		•				•				•					•	CentaurPlus C27 or C1727	
	M6		•				•		•				•				CentaurPlus C17 or C1727	
	Choice PR1n		•	•	•	•	•						•				CentaurPlus C17 or C1727	
	Choice PR2n		•		•											•	CentaurPlus C27 or C1727	
Choice PR3n		•		•					•						•	ChannelPlus H37XL or H3747		
SIEMENS/ LANDIS & STAFA and LANDIS & GYR	RWB100		•	•		•	•		•				•				CentaurPlus C17 or C1727	
	RWB102		•	•		•	•				•	•		•			CentaurPlus C27 or C1727	
	RWB152		•		•		•		•				•				CentaurPlus C17 or C1727	
	RWB170		•		•		•		•				•				CentaurPlus C17 or C1727	
	RWB2/RWB2E		•	•			•				•				•	•	CentaurPlus C27 or C1727	
	RWB200		•	•			•				•				•	•	CentaurPlus C27 or C1727	
	RWB252		•		•		•		•						•		CentaurPlus C27 or C1727	
	RWB270		•			•		•		•					•		CentaurPlus C27 or C1727	
	RWB30/RWB30E		•	•			•		•				•				CentaurPlus C17 or C1727	
	RWB40			•			•		•		•				•		CentaurPlus C27 or C1727	
	RWB50			•	•			•		•			•				CentaurPlus C17 or C1727	
	RWB7		•	•	•	•	•		•		•						CentaurPlus C17 or C1727	
	RWB9		•	•	•	•	•		•		•				•		CentaurPlus C27 or C1727	
	RWB27		•	•	•	•	•		•		•			•			CentaurPlus C17 or C1727	
	RWB29		•	•	•	•	•		•		•				•		CentaurPlus C27 or C1727	
	RWB1001			•	•			•		•			•				CentaurPlus C17 or C1727	
	RWB1007		•	•	•	•	•		•		•		•				CentaurPlus C17 or C1727	
RWB2001		•	•				•		•					•		CentaurPlus C27 or C1727		
RWB2007		•		•	•		•		•					•		CentaurPlus C27 or C1727		
SUNVIC	MP2		•	•			•					•		•		•	CentaurPlus C27 or C1727	
	Select 107/107 XLS		•	•	•	•	•		•				•				CentaurPlus C17 or C1727	
	Select 207/207 XLS		•	•	•	•	•				•						CentaurPlus C27 or C1727	
	SP100		•			•					•					•	CentaurPlus C27 or C1727	
	SP20		•	•				•	•				•				CentaurPlus C17 or C1727	
	SP35		•		•	•			•				•				CentaurPlus C17 or C1727	
	SP25/SP30		•	•				•				•		•			CentaurPlus C17 or C1727	
	SP50		•	•				•							•	•	CentaurPlus C27 or C1727	
TIMEGUARD/ SMITHS	Centroller 100		•	•			•				•				•	•	CentaurPlus C27 or C1727	
	Centroller 1000		•	•			•				•				•	•	CentaurPlus C27 or C1727	
	Centroller 30/50		•		•		•			•			•			•	CentaurPlus C27 or C1727	
	Centroller 40		•	•			•						•				CentaurPlus C17 or C1727	
	Centroller 60/90		•		•		•					•					CentaurPlus C27 or C1727	
	Centroller 70		•				•	•		•				•			CentaurPlus C27 or C1727	
	TRT034		•		•	•	•		•				•				CentaurPlus C17 or C1727	
	TRT036		•		•	•		•			•				•		CentaurPlus C27 or C1727	
TOWERCHRON/ GRASSLIN	DP72		•			•					•				•		CentaurPlus C27 or C1727	
	DT71		•			•					•		•				CentaurPlus C17 or C1727	
	QE1		•			•		•		•							CentaurPlus C17 or C1727	
	QE2		•		•	•		•		•					•		CentaurPlus C27 or C1727	
	QM1		•	•			•		•				•			•	CentaurPlus C17 or C1727	
	QM2		•	•			•		•		•				•	•	CentaurPlus C17 or C1727	
	T2001/T2001Q		•	•			•		•				•				CentaurPlus C17 or C1727	
	T2002/T2002Q		•	•			•							•		•	CentaurPlus C27 or C1727	
	T2003/T2003Q		•	•			•			•			•		•	•	CentaurPlus C27 or C1727	
VENNER	T10		•	•			•				•		•				CentaurPlus C17 or C1727	
	T20/T30		•	•			•								•	•	CentaurPlus C27 or C1727	
	Venotime		•	•			•			•			•				CentaurPlus C17 or C1727	
	Venetrol 80/80M/80P		•	•			•								•	•	CentaurPlus C27 or C1727	

Wiring comparison - programmers

Manufacturer	Model	MAINS			C1727				
		E	N	L	HW OFF	COM	HW or ZONE 2 ON	CH ON	SPARE
		E	N	L	1	2	3	4	NONE
Danfoss Randall	102	E	5	6			1	2	
	102E	E	5	6			1	2	
	102E5/102E7	E	5	6			1	2	
	3020P/3060	8	1,7	6			4	2	3,5
	4033	8	7	6	5		4	2	
	701	E	N	L	4		3	1	
	702	E	N	L	4		3	1	
	922	E	N	L	1		3	6	
	972	E	N	L	1		3	6	
	Drayton/ACL/Invensys	LS112	E	N	L	2		3	4
FP		E	2	1	8		6	10	3
MP		E	2	1			6	10	3,7,8
Switchmaster 320		E	N,2	L			3	1	
Switchmaster 350		E	N,2	L			3	1	
Switchmaster 400		E	N	L			3	1	2
Switchmaster 600		E	N	L			3	1	2,4
Switchmaster 805		E	N	L	4		3	1	
Switchmaster 900		E	N	L	4		3	1	A,B,C
Switchmaster 9000		E	N	L	4		3	1	A,B,C
Switchmaster 9001		E	N	L	4		3	1	A,B,C
Switchmaster 905		E	N	L	4		3	1	
Switchmaster Sonata			N	L	3		1	4	
SM2		E	N	L	1		3	4	
EPH	A27-HW	E	N	L	1		3	4	
	R27-HW	E	N	L	1		3	4	
ESI	ES2247B	E	N	L	1		3	4	
Honeywell	ST699B - Fully Pumped	E	N	L	7		6	3	
	ST699B - Gravity	E	N	L			8	3	
	ST7000A		N	L	2		3	4	
	ST7100	E	N	L	7		8	5	
	ST799A		N	L	7		6	3	
	ST9400A	E	N	L	1		3	4	
	ST9400C	E	N	L	1		3	4	
	ST9500C	E	N	L	1		3	4	
	Horstmann	423 Amethyst 10	E	2,3	1	4		5	7
423 Amethyst 7		E	2,3	1	4		5	7	
423 Diamond		E	N	L			2	4	5,6
424 Coral		E	2,3	1			8	4	5,6
424 Diamond		E	N	L/1			2	4	5
424 Gem		E	2,3	1	6		4	7	
Centaur Plus C21/C27		E	N	L	1		3		4
Service Plus S21/S27		E	N	L	1		3		4
Channel Plus H21/H27		E	N	L	3	2	1	4	
Myson	Microtimer One		N	L	7		6	3	
	Microtimer Seven		N	L	7		6	3	
	MEP2C		N	L	1		3	4	
Potterton	EP2000	E	N	L	1		3	4	A,B,C,D
	EP2001	E	N	L	1		3	4	A,B,C,D
	EP2002	E	N	L	1		3	4	A,B,C,D
	EP3000	E	N	L	1		3	4	A,B,C,D
	EP3001	E	N	L	1		3	4	A,B,C,D
	EP3002	E	N	L	1		3	4	A,B,C,D
	EP6000	E	N	L	1		3	4	A,B,C,D
	EP6002	E	N	L	1		3	4	A,B,C,D
Sangamo	M5	E	4,5	3			1	6	
	Choice PR2n		N	L	1		3	4	
Salus controls	EP200	E	N	L	1		3	4	
	EP210	E	N	L	1		3	4	
Sunvic	MP2		N	L	HW OFF		HW ON	CH ON	
	SP100	E	N	L	1		2	5	S,S
	SP25	E	N	L	1		2	5	S,S,4
	SP30	E	N	L	1		2	5	S,S,4
	SP50	E	N	L	1		2	5	S,S
Timeguard/Smiths	Centroller 100	E	N	L			3	2	1,4
	Centroller 60	E	1	2			5	4	3,6
	Centroller 70	E	1	2			5	4	3,6
	Centroller 90	E	1	2			5	4	3,6
	TRT036	E	N	L	NC2		NO2	NO1	
Towerchron/Grasslin	T2002	E	N	L			HW ON	CH ON	
	T2002Q	E	N	L			HW ON	CH ON	
	T2003	E	N	L	HW OFF		HW ON	CH ON	
	T2003Q	E	N	L	HW OFF		HW ON	CH ON	
Venner	Venetrol 80	E	N,1,3,4	L			2		5
	Venetrol 80M	E	N,3	L	1		2	5	
	Venetrol 80P	E	N,1,3	L			2	A/S	A/S,4,5
	Venner T20	E	N	L			1	4	
	Venner T30	E	N	L	1		2	4	

Manufacturer	Model	MAINS			H3747						
		E	N	L	1 ON	COM	2 ON	COM	HW or ZONE 3 ON	4 ON	SPARE
		E	N	L	1	2	3	4	5	6	NONE
Danfoss Randall	102	E	5	6	2	3			1		
	102E	E	5	6	2	3			1		
	102E5/102E7	E	5	6	2	3			1		
	3020P/3060	8	1,7	6	2				4		3,5
	4033	8	7	6	2			1	4		
	701	E	N	L	1	6		5	3		
	702	E	N	L	1	6		5	3		
	922	E	N	L	6	2		5	3		
	972	E	N	L	6	2		5	3		
	Drayton/ACL/Invensys	LS112	E	N	L	4				3	
FP		E	2	1	10				6		3
MP		E	2	1	10				6		3,7,8
Switchmaster 320		E	N,2	L	1	4			3		
Switchmaster 350		E	N,2	L	1	4			3		
Switchmaster 400		E	N	L	1				3		2
Switchmaster 600		E	N	L	1				3		2,4
Switchmaster 805		E	N	L	1				3		
Switchmaster 900		E	N	L	1				3		A,B,C
Switchmaster 9000		E	N	L	1				3		A,B,C
Switchmaster 9001		E	N	L	1				3		A,B,C
Switchmaster 905		E	N	L	1				3		
Switchmaster Sonata			N	L	4				1		
SM2		E	N	L	4				3		
EPH	A27-HW	E	N	L	L	3		1	4		
	R27-HW	E	N	L	L	3		1	4		
ESI	ES2247B	E	N	L	4				3		
Honeywell	ST699B - Fully Pumped	E	N	L	3	8		5	6		
	ST699B - Gravity	E	N	L	3	6		5	8		
	ST7000A		N	L	4				3		
	ST7100	E	N	L	5	6		3	8		
	ST799A		N	L	3	8		5	6		
	ST9400A	E	N	L	4				3		
	ST9400C	E	N	L	4				3		
	ST9500C	E	N	L	4				3		
	Horstmann	423 Amethyst 10	E	2,3	1	7				5	
423 Amethyst 7		E	2,3	1	7				5		
423 Diamond		E	N	L	4	1		3	2		5,6
424 Coral		E	2,3	1	4			7	8		5,6
424 Diamond		E	N	L/1	4			3	2		5
424 Gem		E	2,3	1	7	5		8	4		
Centaur Plus C21/C27		E	N	L	4				3		
Service Plus S21/S27		E	N	L	4				3		
Channel Plus H21/H27		E	N	L	4				1		
Myson	Microtimer One		N	L	3	8		5	6		
	Microtimer Seven		N	L	3	8		5	6		
	MEP2C		N	L	4				3		
Potterton	EP2000	E	N	L	4			5	3		A,B,C,D
	EP2001	E	N	L	4			5	3		A,B,C,D
	EP2002	E	N	L	4			5	3		A,B,C,D
	EP3000	E	N	L	4			5	3		A,B,C,D
	EP3001	E	N	L	4			5	3		A,B,C,D
	EP3002	E	N	L	4			5	3		A,B,C,D
	EP6000	E	N	L	4			5	3		A,B,C,D
	EP6002	E	N	L	4			5	3		A,B,C,D
Sangamo	M5	E	4,5	3	6				1		
	Choice PR2n		N	L	4				3		
Salus controls	EP200	E	N	L	4				3		
	EP210	E	N	L	4				3		
Sunvic	MP2		N	L	CH ON				HW ON		
	SP100	E	N	L	5			3	2		S,S
	SP25	E	N	L	5			3	2		S,S,4
	SP30	E	N	L	5			3	2		S,S,4
	SP50	E	N	L	5			3	2		S,S
Timeguard/Smiths	Centroller 100	E	N	L	2				3		1,4
	Centroller 60	E	1	2	4				5		3,6
	Centroller 70	E	1	2	4				5		3,6
	Centroller 90	E	1	2	4				5		3,6
	TRT036	E	N	L	NO1				NO2		
Towerchron/Grasslin	T2002	E	N	L	CH ON				HW ON		
	T2002Q	E	N	L	CH ON				HW ON		
	T2003	E	N	L	CH ON	COM		COM	HW ON		
	T2003Q	E	N	L	CH ON	COM		COM	HW ON		
Venner	Venetrol 80	E	N,1,3,4	L	A/S				2		A,S,5
	Venetrol 80M	E	N,3	L	A,S				2		A/S,4,5
	Venetrol 80P	E	N,1,3	L	A/S				2		A/S,4,5
	Venner T20	E	N	L	4				1		
	Venner T30	E	N	L	4				2		

Wiring comparison - timeswitches

Manufacturer	Model	MAINS			C1727				
		E	N	L	1 HW OFF	2 COM	3 HW or ZONE 2 ON	4 CH ON	SPARE
		E	N	L	1	2	3	4	N/A
Danfoss Randall	103	4	5	6		3		1	2
	103E	4	5	6		3		1	2
	103E5	4	5	6		3		1	2
	103E7	4	5	6		3		1	2
	911	E	N	L		5		6	2
	917	E	N	L		5		6	2
	971	E	N	L		5		6	2
	TS15		N	L		1		4	3
	TS75		N	L		1		4	3
	TS715		N	L		1		4	3
Drayton/ACL/Invensys	LP111		N	L		1		3	4
	LP711		N	L		1		3	4
	LS111		N	L		1		3	4
	LS711		N	L		1		3	4
	Switchmaster 300		N,2	L		4		1	
	Switchmaster 980		N	L		4		1	
	SM1		N	L		1		3	4
	TC		2	1				7	
	Tempus 1		N	L		1		2	4
	Tempus 2		N	L		1		2	4
	Tempus 1-Mk2		N	L		1		3	4
	Tempus 2-Mk2		N	L		1		3	4
EPH	R17	E	N	L		1		4	
	T17	E	N	L		1		4	
ESI	ES1247B	E	N	L		1		4	
Honeywell	ST6100A		N	L		1		4	3
	ST6100C		N	L		1		4	3
	ST7000B		N	L				3	
	ST9100A		N	L		1		4	3
	ST9100C		N	L		1		4	3
Horstmann	423 Emerald	E	N	L		3		4	5,6
	423 Pearl Auto	E	N	L		3		4	5,6
	424 Emerald	E	N	L,1		3		4	5
	424 Pearl Auto	E	N	L,1		3		4	5
	Centaur SC1	E	N	L		1		3	4
	Centaur SC7	E	N	L		1		3	4
	Centaur Plus C11/C17	E	N	L		2		4	
	Service Plus S11/S17	E	N	L		3		4	
	Channel Plus H11/H17	E	N	L		2		4	
	Myson	MEP1C		N	L		3		4
Potterton	EP4000	E	N	L		5		4	A,B,C,D
	EP4001	E	N	L		5		4	A,B,C,D
	EP4002	E	N	L		5		4	A,B,C,D
	EP5000	E	N	L		5		4	A,B,C,D
	EP5002	E	N	L		5		4	A,B,C,D
Salus Controls	EP100		N	L				3	
	EP101		N	L		4		3	2
Sangamo	M6	E	4	6		3		1	
	Choice PR1n		N	L		1		3	
	Sunvic SP20	E	N	L		3		5	S
	SP35	E	N	L		3		5	S
	Select 107/107XLS	E	N	L		1		3	
Timeguard/Smiths	Centroller 30	E	1	2				4,5	
	Centroller 40	E	1	2				4,5	
	Centroller 50	E	2	1,5				4	
	Centroller Mk1		N	L		3		2	
	Centroller Mk2		N	L		3		2	
	TRT034	E	N	L				NO1	
Towerchron/Grasslin	DT71		N	L		3		4	
	QE1		N	L	1	3		4	1
	T2001		N	L				7	
	T2001Q		N	L				7	
Venner	T10	E	N	L		2		3	
	Venotime	E	N	L	2			3	2

Appendix 1: Optimum start and stop

Smart controls range (C1727 and H3747)

Smart controls range (C1727 and H3747) are 2 and 4 channel receiver/PTD units that are wireless-enabled and can be controlled by a companion app. They use load compensation technology to minimise boiler cycling and reduce flow temperatures. It has Optimum Start-Stop feature for extra energy saving.

C-Stat programmable room thermostat

The C-Stat is an electronic programmable room thermostat that combines time and temperature control in a stylish design that features simple, menu driven programming and a clear, back lit user interface. Among its many features the C-Stat has an (optional) optimum start function.

C-Stat uses load compensation technology to minimise boiler cycling and reduce flow temperatures.

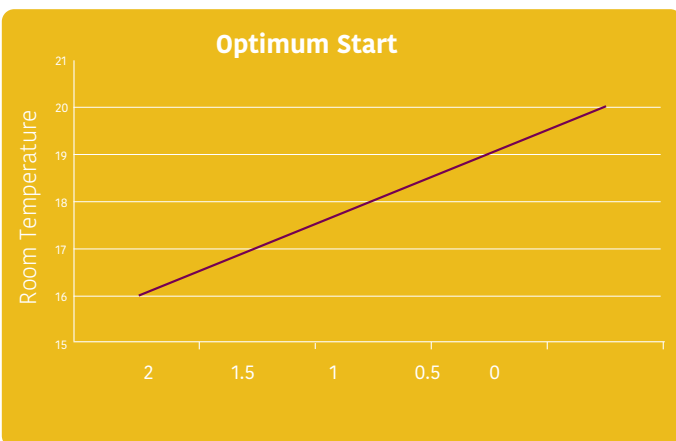
Models in the range feature 7-day programming with up to six temperature settings per day. The intuitive interface ensures they are easy to set up and use.

The Optimum Start feature:

This (optional) setting will allow the C-Stat and smart controls range (C1727 and h3747) to anticipate the next set temperature and switch on the central heating up to 2 hours in advance to ensure the set room temperature has been reached by the time it is due to take effect.

As a consequence, the 'switch on' time could take place anywhere between 2 hours and zero minutes before the set time.

It is assumed that the heating can increase at a rate of 2°C per hour. Therefore, the maximum extent of this setting is that it can switch on up to 2 hours before the set temperature and raise the temperature by 4°C (with an assumed warm up rate of 2°C per hour).



The 2-hour optimisation period and the 2°C per hour assumed temperature rise are non-adjustable. The optimisation process will be cancelled if any overrides are used during the 2-hour period of operation.

The Optimum Stop feature: the Smart Controls range

This (optional) feature analyses the temperature rise and fall pattern and accordingly turns the heating off a bit earlier than the scheduled time, although ensuring that a comfortable temperature is always maintained. This effect may not be noticeable but is a great measure to save energy and bring down your fuel expenses.

Benefits

For units without an optimum start or delayed start feature, normal practice is to set the heating to come on approximately 1 hour before it is expected to be up to the set room temperature.

For example, if a householder gets up at 6.30am, the heating will typically be set to come on at 5.30am to allow the house to be warm by 6.30am.

The benefit of the optimum start feature is that the heating switch on time is calculated based on the temperature sensed 2 hours before the set time.

The actual switch on time is then delayed as long as possible whilst still achieving the correct required temperature at the set time.

In mild weather conditions, the start time will be delayed until the last possible moment achieving considerable (energy) savings over a fixed 1 hour warm up time.

By contrast, in exceptionally cold weather conditions, the heating may be brought on up to 2 hours before the time required but this will not be normal (in the UK) and savings should outweigh the extra heating needed in exceptionally cold conditions.

The added benefit of optimum start is that comfort conditions will be improved as the heating will be better controlled and less likely to ov

As a consequence the 'switch on' time could take place anywhere between 2 hours and zero minutes before the set time.

It is assumed that the heating can increase at a rate of 2°C per hour.

Therefore, the maximum extent of this setting is that it can switch on up to 2 hours before the set temperature and raise the temperature by 4°C (with an assumed warm up rate of 2°C per hour).

The 2 hour optimisation period and the 2°C per hour assumed temperature rise are non-adjustable. The optimisation process will be cancelled if any overrides are used during the 2 hour period of operation.



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