

Logger Profiles

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**MULTICAL® 403**

**MULTICAL® 603**

**MULTICAL® 803**

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## 1 List of words, symbols and abbreviations

Word/symbol	Meaning
Α̅γ.	Average
BCD	Binary Coded Data
C	Cooling
CP/COP	Coefficient of Performance
Err.	Error
H	Heat
H/C	Heat/Cooling
HCC	Heat Cooling Coding
INT	Integer value, e.g. INT4 is a 4 Byte integer value
M-Bus	Wired M-Bus
Max	Maximum
Min	Minimum
qp	Permanent/approved nominal flow
Std.	Standard
Temp.	Temperature
V	Volume (Warm and Cold water)
wM-Bus	Wireless M-Bus
ΔΘ	Temperature difference of inlet and outlet

## 2 Introduction

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Kamstrup MULTICAL® 403, MULTICAL® 603 and MULTICAL® 803 have an integrated fully programmable data logger. The meters can be configured to various logger profiles. These profiles define the depth of loggers, the interval of the minute loggers and which registers should be included in the loggers. The logger profile is identified by the meters RR-code.

The configuration of a M-Bus module is described by the xx-YY-ZZZ code.

xx: Module type - the physical hardware

YY: System configuration - for wireless M-Bus, the radio parameters

ZZZ: Datagram - the data registers

M-Bus and wireless M-Bus modules for MULTICAL® 403, MULTICAL® 603 and MULTICAL® 803 are configurable, whereby they can be configured to send out different datagrams. A datagram is defining, which registers a specific module is configured to send out. Furthermore, transmission interval and transmission power for wireless M-Bus modules can be configured. The modules configuration is identified by the modules YY- and ZZZ-code.

This document provides an overview of both the available logger profiles for MULTICAL® 403, MULTICAL® 603 and MULTICAL® 803 and the available configurations for the wired and wireless M-Bus modules.

### 3 Meter logger profiles

Below a table shows each available logger profile, including a small description of each logger profile. For details please see the subsequent part of this paragraph which describes each logger profile in detail.

Once a new logger profile is created, it can be made available for both MULTICAL® 403, 603 and 803. However, a specific logger profile will not be identical on the meters, in terms of...

- 1 ... available registers, because MULTICAL® 403 and 603 supports only a subset of registers of that available in MULTICAL® 803.
- 2 ...logger depth, as this varies in the three different meter series and therefore in some cases the logger depth will be extended in e.g. MULTICAL® 603 compared to MULTICAL® 403.
- 3 ...register for date, time, Info code, hour and error hour will always be present in a logger profile

Name	Description	RR
Standard	Our standard profile which is based on the MULTICAL®602 logger profile.	10
NB: Without time averaged temperatures.	10	11
Current values	The standard profile with the addition of current (actual) values in a 15 min. logger	11
	The standard profile with the addition of a 15 min. logger, which contains all of the registers concerning actual values.	13
Ludwig	The standard profile with an extended logger depth for the monthly logger (72 months). Furthermore the registers A1/A2, COP, time averaged temperatures and time averaged analog inputs are added. Lastly the energy registers are added to the daily logger.	12
Madrid	The standard profile with the addition of a 15 min. logger, which contains all of the registers concerning actual values.	13
Peter	The standard profile with an extended logger depth for the hourly logger (1600 hours). Furthermore the registers dE, cE, dV and cV are added.	14
Diagnostic 1	A profile for diagnostic purposes with 1 min. logger containing actual t1, actual t2 and actual flow for V1.	15
Diagnostic 1	A profile for diagnostic purposes with 1 min. logger containing actual t1, actual t2, actual flow for V1 and the analog inputs P1 actual and P2 actual.	16
Kiev	The standard profile with an extended logger depth for the hourly logger (1600 hours). Furthermore the registers dE, cE, dV, cV and COP year / month are added.	18
	17	19
Information sensitive	A profile with minimum amount of registers – only E1, E3, V1 and INFO	18
Norton	A profile with 1 min logs of actual values + COP	19
Athens	A standard logger profile with addition of actual values, and a twice as large hourly logger as standard logger profile (RR10).	20
Noe	A logger profile with reduced registers. Year depth is reduced to 16. Month, day and hourly log dept is increased to 72, 2190 and 2160	21
Munich	A logger profiles with extended day, month and hour log. Also 15 minute log is available	22
Tartu	A logger profile with maximum 15 min loggers. But with reduced year and monthly (5 and 12) logs. Day and hourly log is completely removed.	23
Wetzlar	A logger with 10 minutes logs of some actual values	24
Doetinchem	The standard profile with temperatures as minute logs and Furthermore the registers dE, cE, dV and cV are added.	25
LinkIQ	A default linkIQ logger profile, to support a wider logger profile	30
LinkIQ 1	A LinkIQ logger profile, special made for the LinkIQ module	50
LinkIQ 2	A extend LinkIQ logger profile with additional registers available	51
LinkIQ 3	A extend LinkIQ logger profile with additional registers available	52
KM RF	A Kamstrup radio (KM RF) logger profile specially made for our legacy radio modules; HC-003-50, HC-003-51 and HC-003-84,HC-003-85.	90

## 4 MULTICAL® 403 logger profiles

The following meter logger profiles are applicable for MULTICAL® 403.

### 4.1 Standard (RR 10)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	..m	..m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x				
110	Energy E9	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				

4.2 Current values (RR 11)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	672	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
63	Cooling energy E3	x	x	x	x	x	
97	Energy E8	x	x				
110	Energy E9	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x	x	
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]			x	x	x	
87	t2 actual [2 decimals]			x	x	x	
89	t1-t2 diff. temp. [2 decimals]			x	x	x	
74	Flow V1 actual			x	x	x	
80	Power E1/E3 actual			x	x	x	

### 4.3 Ludwig (RR 12)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
364	Heat energy A1	x	x	x	x		
365	Heat energy A2	x	x	x	x		
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				

4.4 Madrid (RR 13)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	1344	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
63	Cooling energy E3	x	x	x	x	x	
97	Energy E8	x	x				
110	Energy E9	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x	x	
84	Pulse input A1	x	x	x	x	x	
85	Pulse input B1	x	x	x	x	x	
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
89	t1-t2 diff. temp. [2 decimals]					x	
74	Flow V1 actual					x	
80	Power E1/E3 actual					x	

#### 4.5 Peter (RR 14)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			

4.6 Diagnostic 1 (RR 15)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	1m	...m
<b>Logger depth</b>		20	72	460	-	5760	-
1003	Date [yy.mm.dd]	x	x	x		x	
1002	Time [hh.mm.ss]	x	x	x		x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
68	Volume V1	x	x	x			
99/369	Info code	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	

#### 4.7 Diagnostic 2 (RR 16)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	-	5760	-
1003	Date [yy.mm.dd]	x	x	x		x	
1002	Time [hh.mm.ss]	x	x	x		x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
68	Volume V1	x	x	x			
369	Info bits	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
1004	Operating hours	x	x	x			
175	Error hour counter	x	x	x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	
80	Power E1/E3 actual					x	

4.8 Kiev (RR 17)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
355	COP Year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			

#### 4.9 Information sensitive (RR 18)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		20	36	-	-	-	-
1003	Date (yy.mm.dd)	x	x				
1002	Time (hh.mm.ss)	x	x				
60	Heat energy E1	x					
63	Cooling energy E3	x					
68	Volume V1	x					
99/369	Info code	x					
1004	Operating hours	x	x				
175	Error hour counter	x	x				

4.10 Norton (RR 19)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	3575	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
64	Tariff TA2	x	x	x			
65	Tariff TA3	x	x	x			
362	Tariff TA4	x	x	x			
68	Volume V1	x	x	x			
84	Pulse input A1	x	x	x			
85	Pulse input B1	x	x	x			
369	Info bits	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
89	t1_t2 diff. temp. [2 decimals]					x	
74	Flow V1 actual					x	
80	Power E1/E3 actual					x	
355	COP year	x					
367	COP Month		x				

4.11 Athens (RR 20)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	24	390	1850	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
68	Volume V1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
86	t1 actual [2 decimals]			x	x		
87	t2 actual [2 decimals]			x	x		
89	t1_t2 diff. temp. [2 decimals]			x	x		
74	Flow V1 actual			x	x		
80	Power E1/E3 actual			x	x		

4.12 Noe (RR 21)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		16	72	2190	1080	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
68	Volume V1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x				

4.13 Munich (RR 22)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	72	460	768	1400	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
63	Cooling energy E3	x	x	x	x	x	
97	Energy E8	x	x				
110	Energy E9	x	x				
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x	x	
84	Pulse input A1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
86	t1 actual [2 decimals]				x	x	
87	t2 actual [2 decimals]				x	x	
89	t1_t2 diff. temp. [2 decimals]				x	x	
74	Flow V1 actual				x	x	
80	Power E1/E3 actual				x	x	

4.14 Tartu (RR 23)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	15m	...m
<b>Logger depth</b>		5	12	-	-	2280	-
1003	Date [yy.mm.dd]	x	x			x	
1002	Time [hh.mm.ss]	x	x			x	
60	Heat energy E1	x	x			x	
63	Cooling energy E3	x	x			x	
97	Energy E8	x	x			x	
110	Energy E9	x	x			x	
68	Volume V1	x	x			x	
84	Pulse input A1	x	x			x	
85	Pulse input B1	x	x			x	
369	Info bits	x	x			x	
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
142	Power max month date		x				
143	Power max month		x				
1004	Operating hours	x	x			x	
175	Error hour counter	x	x			x	
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	
80	Power E1/E3 actual					x	

4.15 Wetzlar (RR 24)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	10m	...m
Logger depth		20	36	460	1400	2900	-
1003	Date (yy.mm.dd)	x	x	x	x	x	
1002	Time (hh.mm.ss)	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x				
110	Energy E9	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	
80	Power E1/E3 actual					x	

4.16 Doetinchem (RR 25)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	2800	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	

4.17 Kyiv (RR 27)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
355	COP year	x					
367	COP Month		x				

4.18 Default (RR 30)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		<b>1y</b>	<b>1m</b>	<b>1d</b>	<b>1h</b>	<b>15m</b>	<b>1m</b>
<b>Logger depth</b>		<b>20</b>	<b>36</b>	<b>460</b>	<b>72</b>	<b>96</b>	<b>360</b>
1003	Date [yy.mm.dd]	x	x	x	x	x	x
1002	Time [hh.mm.ss]	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
355	COP year	x					

4.19 Default, 30 min (RR 31)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
355	COP year	x					

4.20 Europa (RR 32)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time [hh.mm.ss]	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
355	COP year	x					

4.21 AT OPT-IN (RR 40)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
364	Heat energy A1	x	x	x	x		
365	Heat energy A2	x	x	x	x		
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				

4.22 AT OPT-STD (RR 41)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		2	28	-	-	-	-
1002	Time (hh.mm.ss)	x	x				
60	Heat energy E1	x	x				
63	Cooling energy E3	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
364	Heat energy A1	x	x				
365	Heat energy A2	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x				
84	Pulse input A1	x	x				
85	Pulse input B1	x	x				
369	Info bits	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				

#### 4.23 AT OPT-OUT (RR 42)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		1	-	-	-	-	-
1002	Time (hh.mm.ss)	x					
60	Heat energy E1	x					
63	Cooling energy E3	x					
97	Energy E8	x					
110	Energy E9	x					
364	Heat energy A1	x					
365	Heat energy A2	x					
64	Tariff TA2	x					
65	Tariff TA3	x					
362	Tariff TA4	x					
68	Volume V1	x					
84	Pulse input A1	x					
85	Pulse input B1	x					
369	Info bits	x					
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
355	COP year	x					
1004	Operating hours	x					
175	Error hour counter	x					

4.24 AT OPT-STD-Daily (RR 43)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	1	-	-	-
1002	Time [hh.mm.ss]	x	x	x	x	x	x
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
364	Heat energy A1	x	x	x			
365	Heat energy A2	x	x	x			
64	Tariff TA2	x	x	x			
65	Tariff TA3	x	x	x			
362	Tariff TA4	x	x	x			
68	Volume V1	x	x	x			
84	Pulse input A1	x	x	x			
85	Pulse input B1	x	x	x			
369	Info bits	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]			x			
87	t2 actual [2 decimals]			x			
74	Flow V1 actual			x			
80	Power E1/E3 actual			x			

#### 4.25 LinkIQ (RR 50)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
84	Pulse input A1		x				
85	Pulse input B1		x				
369	Info bits		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
142	Power max month date		x				
143	Power max month		x				
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x				
87	t2 actual [2 decimals]		x				

4.26 LinkIQ 2 (RR 51)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		<b>1y</b>	<b>1m</b>	<b>1d</b>	<b>1h</b>	<b>...m</b>	<b>...m</b>
<b>Logger depth</b>		<b>20</b>	<b>36</b>	<b>460</b>	<b>1400</b>	<b>-</b>	<b>-</b>
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
84	Pulse input A1		x				
85	Pulse input B1		x				
369	Info bits		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x		x		
87	t2 actual [2 decimals]		x		x		
74	Flow V1 actual				x		

4.27 LinkIQ 3 (RR 52)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
84	Pulse input A1		x				
85	Pulse input B1		x				
369	Info bits		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x		x		
87	t2 actual [2 decimals]		x		x		
74	Flow V1 actual				x		
80	Power E1/E3 actual	x	x	x	x		

4.28 KM RF (RR 90)

MULTICAL® 403							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x		x		
110	Energy E9	x	x		x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
1004	Operating hours	x	x		x		
175	Error hour counter	x	x		x		
86	t1 actual [2 decimals]				x		
87	t2 actual [2 decimals]				x		
89	t1-t2 diff. temp. [2 decimals]				x		
74	Flow V1 actual				x		
80	Power E1/E3 actual				x		

## 5 MULTICAL® 603 logger profiles

The following meter logger profiles are applicable for MULTICAL® 603.

### 5.1 Standard (RR 10)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				

5.2 Current values (RR 11)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	672	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x	x	
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x	x	
69	Volume V2	x	x	x	x	x	
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	672	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]			x	x	x	
87	t2 actual [2 decimals]			x	x	x	
88	t3 actual [2 decimals]			x	x	x	
122	t4 actual [2 decimals]			x	x	x	
89	t1-t2 diff. temp. [2 decimals]			x	x	x	
74	Flow V1 actual			x	x	x	
75	Flow V2 actual			x	x	x	
80	Power E1/E3 actual			x	x	x	
91	P1 actual			x	x	x	
92	P2 actual			x	x	x	

5.3 Ludwig (RR 12)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x			
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x			
62	Outlet energy E5	x	x	x			
95	Tap water energy E6	x	x	x			
96	Tap water energy E7	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
364	Heat energy A1	x	x	x	x		
365	Heat energy A2	x	x	x	x		
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				

5.4 Madrid (RR 13)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	1344	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x	x	
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x	x	
69	Volume V2	x	x	x	x	x	
84	Pulse input A1	x	x	x	x	x	
85	Pulse input B1	x	x	x	x	x	
224	Pulse input A2	x	x	x	x	x	
225	Pulse input B2	x	x	x	x	x	
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	1344	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
122	t4 actual [2 decimals]					x	
89	t1-t2 diff. temp. [2 decimals]					x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

5.5 Peter (RR 14)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
379	t1 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			

5.6 Diagnostic 1 (RR 15)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	1m	...m
<b>Logger depth</b>		20	72	460	-	12960	-
1003	Date [yy.mm.dd]	x	x	x		x	
1002	Time [hh.mm.ss]	x	x	x		x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
68	Volume V1	x	x	x			
72	Mass M1	x	x	x			
99/369	Info code	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	

5.7 Diagnostic 2 (RR 16)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	-	6480	-
1003	Date (yy.mm.dd)	x	x	x		x	
1002	Time (hh.mm.ss)	x	x	x		x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
68	Volume V1	x	x	x			
69	Volume V2	x	x	x			
72	Mass M1	x	x	x			
73	Mass M2	x	x	x			
369	Info bits	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
505	P1 average day			x			
506	P2 average day			x			
1004	Operating hours	x	x	x			
175	Error hour counter	x	x	x			
86	t1 actual (2 decimals)					x	
87	t2 actual (2 decimals)					x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

5.8 Kiev (RR 17)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
355	COP Year	x					

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			

### 5.9 Information sensitive (RR 18)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		20	36	-	-	-	-
1003	Date (yy.mm.dd)	x	x				
1002	Time (hh.mm.ss)	x	x				
60	Heat energy E1	x					
63	Cooling energy E3	x					
68	Volume V1	x					
99/369	Info code	x					
1004	Operating hours	x	x				
175	Error hour counter	x	x				

5.10 Norton (RR 19)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	4320	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
474	Energy E11	x	x	x			
64	Tariff TA2	x	x	x			
65	Tariff TA3	x	x	x			
362	Tariff TA4	x	x	x			
68	Volume V1	x	x	x			
69	Volume V2	x	x	x			
84	Pulse input A1	x	x	x			
85	Pulse input B1	x	x	x			
224	Pulse input A2	x	x	x			
225	Pulse input B2	x	x	x			
369	Info bits	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
122	t4 actual [2 decimals]					x	
89	t1_t2 diff. temp. [2 decimals]					x	
74	Flow V1 actual					x	

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	4320	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
75	Flow V2 actual						x
80	Power E1/E3 actual						x
91	P1 actual						x
92	P2 actual						x

5.11 Athens (RR 20)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	..m	...m
Logger depth		20	24	390	2976	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
473	Energy E10	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
72	Mass M1	x	x				
73	Mass M2	x	x				
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
86	t1 actual [2 decimals]			x	x		
87	t2 actual [2 decimals]			x	x		
88	t3 actual [2 decimals]			x	x		
89	t1_t2 diff. temp. [2 decimals]			x	x		
74	Flow V1 actual			x	x		
75	Flow V2 actual			x	x		
80	Power E1/E3 actual			x	x		

5.12 Noe (RR 21)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	..m	..m
<b>Logger depth</b>		16	72	2190	2160	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
473	Energy E10	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x				

5.13 Munich (RR 22)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	72	460	2000	2000	-
1003	Date (yy.mm.dd)	x	x	x	x	x	
1002	Time (hh.mm.ss)	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
63	Cooling energy E3	x	x	x	x	x	
97	Energy E8	x	x				
110	Energy E9	x	x				
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x	x	
84	Pulse input A1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
86	t1 actual [2 decimals]				x	x	
87	t2 actual [2 decimals]				x	x	
89	t1_t2 diff. temp. [2 decimals]				x	x	
74	Flow V1 actual				x	x	
80	Power E1/E3 actual				x	x	

5.14 Tartu (RR 23)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	15m	...m
<b>Logger depth</b>		5	12	-	-	3220	-
1003	Date [yy.mm.dd]	x	x			x	
1002	Time [hh.mm.ss]	x	x			x	
60	Heat energy E1	x	x			x	
63	Cooling energy E3	x	x			x	
97	Energy E8	x	x			x	
110	Energy E9	x	x			x	
68	Volume V1	x	x			x	
69	Volume V2	x	x			x	
84	Pulse input A1	x	x			x	
85	Pulse input B1	x	x			x	
224	Pulse input A2	x	x				
225	Pulse input B2	x	x				
369	Info bits	x	x			x	
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
142	Power max month date		x				
143	Power max month		x				
1004	Operating hours	x	x			x	
175	Error hour counter	x	x			x	
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

5.15 Wetzlar (RR 24)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	10m	...m
Logger depth		20	36	460	1400	6000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	10m	...m
Logger depth		20	36	460	1400	6000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
80	Power E1/E3 actual					x	

5.16 Doetinchem (RR 25)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	460	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
473	Energy E10	x	x	x	x		
474	Energy E11	x	x	x	x		
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	460	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
122	t4 actual [2 decimals]					x	

5.17 Kyiv (RR 27)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		

5.18 Default (RR 30)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	1m
Logger depth		20	36	460	72	96	360
1003	Date [yy.mm.dd]	x	x	x	x	x	x
1002	Time [hh.mm.ss]	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
94	Heat energy E2	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
61	Inlet energy E4	x	x	x	x	x	x
62	Outlet energy E5	x	x	x	x	x	x
95	Tap water energy E6	x	x	x	x	x	x
96	Tap water energy E7	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
473	Energy E10	x	x	x	x	x	x
474	Energy E11	x	x	x	x	x	x
178	Differential energy dE	x	x	x	x	x	x
179	Control energy cE	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
69	Volume V2	x	x	x	x	x	x
180	Differential volume dV	x	x	x	x	x	x
181	Control volume cV	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
224	Pulse input A2	x	x	x	x	x	x
225	Pulse input B2	x	x	x	x	x	x
72	Mass M1	x	x	x	x	x	x
73	Mass M2	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	1m
Logger depth		20	36	460	72	96	360
1003	Date [yy.mm.dd]	x	x	x	x	x	x
1002	Time [hh.mm.ss]	x	x	x	x	x	x
145	Power min month		x				
355	COP year	x					
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
88	t3 actual [2 decimals]		x	x	x	x	x
122	t4 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
75	Flow V2 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
91	P1 actual		x	x	x	x	x
92	P2 actual		x	x	x	x	x

5.19 Default, 30 min (RR 31)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
94	Heat energy E2	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
61	Inlet energy E4	x	x	x	x	x	x
62	Outlet energy E5	x	x	x	x	x	x
95	Tap water energy E6	x	x	x	x	x	x
96	Tap water energy E7	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
473	Energy E10	x	x	x	x	x	x
474	Energy E11	x	x	x	x	x	x
178	Differential energy dE	x	x	x	x	x	x
179	Control energy cE	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
69	Volume V2	x	x	x	x	x	x
180	Differential volume dV	x	x	x	x	x	x
181	Control volume cV	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
224	Pulse input A2	x	x	x	x	x	x
225	Pulse input B2	x	x	x	x	x	x
72	Mass M1	x	x	x	x	x	x
73	Mass M2	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
355	COP year	x					
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
88	t3 actual [2 decimals]		x	x	x	x	x
122	t4 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
75	Flow V2 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
91	P1 actual		x	x	x	x	x
92	P2 actual		x	x	x	x	x

5.20 Europa (RR 32)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
94	Heat energy E2	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
61	Inlet energy E4	x	x	x	x	x	x
62	Outlet energy E5	x	x	x	x	x	x
95	Tap water energy E6	x	x	x	x	x	x
96	Tap water energy E7	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
473	Energy E10	x	x	x	x	x	x
474	Energy E11	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
69	Volume V2	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
224	Pulse input A2	x	x	x	x	x	x
225	Pulse input B2	x	x	x	x	x	x
72	Mass M1	x	x	x	x	x	x
73	Mass M2	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
88	t3 actual [2 decimals]		x	x	x	x	x
122	t4 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
75	Flow V2 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
91	P1 actual		x	x	x	x	x
92	P2 actual		x	x	x	x	x

5.21 AT OPT-IN (RR 40)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x			
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x			
62	Outlet energy E5	x	x	x			
95	Tap water energy E6	x	x	x			
96	Tap water energy E7	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
364	Heat energy A1	x	x	x	x		
365	Heat energy A2	x	x	x	x		
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
369	Info bits	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x		
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				

5.22 AT OPT-STD (RR 41)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		2	28	-	-	-	-
1002	Time (hh.mm.ss)	x	x				
60	Heat energy E1	x	x				
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x				
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
364	Heat energy A1	x	x				
365	Heat energy A2	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x				
69	Volume V2	x	x				
84	Pulse input A1	x	x				
85	Pulse input B1	x	x				
224	Pulse input A2	x	x				
225	Pulse input B2	x	x				
72	Mass M1	x	x				
73	Mass M2	x	x				
369	Info bits	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				

5.23 AT OPT-OUT (RR 42)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		1	-	-	-	-	-
1002	Time (hh.mm.ss)	x					
60	Heat energy E1	x					
94	Heat energy E2	x					
63	Cooling energy E3	x					
61	Inlet energy E4	x					
62	Outlet energy E5	x					
95	Tap water energy E6	x					
96	Tap water energy E7	x					
97	Energy E8	x					
110	Energy E9	x					
473	Energy E10	x					
474	Energy E11	x					
178	Differential energy dE	x					
179	Control energy cE	x					
364	Heat energy A1	x					
365	Heat energy A2	x					
64	Tariff TA2	x					
65	Tariff TA3	x					
362	Tariff TA4	x					
68	Volume V1	x					
69	Volume V2	x					
84	Pulse input A1	x					
85	Pulse input B1	x					
224	Pulse input A2	x					
225	Pulse input B2	x					
72	Mass M1	x					
73	Mass M2	x					
369	Info bits	x					
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
355	COP year	x					
1004	Operating hours	x					
175	Error hour counter	x					

5.24 AT OPT-STD-Daily (RR 43)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	1	-	-	-
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x			
94	Heat energy E2	x	x	x			
63	Cooling energy E3	x	x	x			
61	Inlet energy E4	x	x	x			
62	Outlet energy E5	x	x	x			
95	Tap water energy E6	x	x	x			
96	Tap water energy E7	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
364	Heat energy A1	x	x	x			
365	Heat energy A2	x	x	x			
64	Tariff TA2	x	x	x			
65	Tariff TA3	x	x	x			
362	Tariff TA4	x	x	x			
68	Volume V1	x	x	x			
69	Volume V2	x	x	x			
84	Pulse input A1	x	x	x			
85	Pulse input B1	x	x	x			
224	Pulse input A2	x	x	x			
225	Pulse input B2	x	x	x			
72	Mass M1	x	x	x			
73	Mass M2	x	x	x			
369	Info bits	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	1	-	-	-
1002	Time (hh.mm.ss)	x	x	x	x	x	x
477	t3 time average day			x			
505	P1 average day			x			
506	P2 average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual (2 decimals)			x			
87	t2 actual (2 decimals)			x			
74	Flow V1 actual			x			
80	Power E1/E3 actual			x			

5.25 LinkIQ (RR 50)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x				
474	Energy E11		x				
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x				
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x				
73	Mass M2		x				
369	Info bits		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
142	Power max month date		x				
143	Power max month		x				
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x				
87	t2 actual [2 decimals]		x				
88	t3 actual [2 decimals]		x				
122	t4 actual [2 decimals]		x				

5.26 LinkIQ 2 (RR 51)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x				
474	Energy E11		x				
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x				
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x				
73	Mass M2		x				
369	Info bits		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x		x		
87	t2 actual [2 decimals]		x		x		
88	t3 actual [2 decimals]		x				

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
122	t4 actual [2 decimals]		x				
74	Flow V1 actual				x		

5.27 LinkIQ 3 (RR 52)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x				
474	Energy E11		x				
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x				
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x				
73	Mass M2		x				
369	Info bits		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x		x		
87	t2 actual [2 decimals]		x		x		
88	t3 actual [2 decimals]		x				

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
122	t4 actual [2 decimals]		x				
74	Flow V1 actual				x		
80	Power E1/E3 actual	x	x	x	x		

5.28 LinkIQ PDO (RR 53)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x	x	x		
474	Energy E11		x	x	x		
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x	x	x		
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x	x	x		
73	Mass M2		x	x	x		
369	Info bits		x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
1004	Operating hours		x	x			
175	Error hour counter		x	x			
86	t1 actual [2 decimals]		x	x	x		
87	t2 actual [2 decimals]		x	x	x		
88	t3 actual [2 decimals]		x	x	x		

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
122	t4 actual [2 decimals]		x	x	x		
74	Flow V1 actual		x	x	x		
80	Power E1/E3 actual		x	x	x		

5.29 KM RF (RR 90)

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x		x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x		x		
62	Outlet energy E5	x	x		x		
95	Tap water energy E6	x	x		x		
96	Tap water energy E7	x	x		x		
97	Energy E8	x	x		x		
110	Energy E9	x	x		x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
1004	Operating hours	x	x		x		
175	Error hour counter	x	x		x		
86	t1 actual [2 decimals]				x		
87	t2 actual [2 decimals]				x		
88	t3 actual [2 decimals]				x		
122	t4 actual [2 decimals]				x		
89	t1-t2 diff. temp. [2 decimals]				x		
74	Flow V1 actual				x		
75	Flow V2 actual				x		

MULTICAL® 603							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
80	Power E1/E3 actual				x		
91	P1 actual				x		
92	P2 actual				x		

## 6 MULTICAL® 803 logger profiles

The following meter logger profiles are applicable for MULTICAL® 803.

### 6.1 Standard (RR 10)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
611	Energy E12	x	x				
612	Energy E13	x	x				
613	Energy E14	x	x				
614	Energy E15	x	x				
615	Energy E16	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				

6.2 Current values (RR 11)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	672	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x	x	
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
611	Energy E12	x	x				
612	Energy E13	x	x				
613	Energy E14	x	x				
614	Energy E15	x	x				
615	Energy E16	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x	x	
69	Volume V2	x	x	x	x	x	
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	672	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]			x	x	x	
87	t2 actual [2 decimals]			x	x	x	
88	t3 actual [2 decimals]			x	x	x	
122	t4 actual [2 decimals]			x	x	x	
89	t1-t2 diff. temp. [2 decimals]			x	x	x	
74	Flow V1 actual			x	x	x	
75	Flow V2 actual			x	x	x	
80	Power E1/E3 actual			x	x	x	
91	P1 actual			x	x	x	
92	P2 actual			x	x	x	

6.3 Ludwig (RR 12)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x			
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x			
62	Outlet energy E5	x	x	x			
95	Tap water energy E6	x	x	x			
96	Tap water energy E7	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
611	Energy E12	x	x	x			
612	Energy E13	x	x	x			
613	Energy E14	x	x	x			
614	Energy E15	x	x	x			
615	Energy E16	x	x	x			
364	Heat energy A1	x	x	x	x		
365	Heat energy A2	x	x	x	x		
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				

6.4 Madrid (RR 13)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	1344	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x	x	
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
611	Energy E12	x	x				
612	Energy E13	x	x				
613	Energy E14	x	x				
614	Energy E15	x	x				
615	Energy E16	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x	x	
69	Volume V2	x	x	x	x	x	
84	Pulse input A1	x	x	x	x	x	
85	Pulse input B1	x	x	x	x	x	
224	Pulse input A2	x	x	x	x	x	
225	Pulse input B2	x	x	x	x	x	
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	...m
Logger depth		20	36	460	1400	1344	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
122	t4 actual [2 decimals]					x	
89	t1_t2 diff. temp. [2 decimals]					x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

6.5 Peter (RR 14)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
611	Energy E12	x	x	x			
612	Energy E13	x	x	x			
613	Energy E14	x	x	x			
614	Energy E15	x	x	x			
615	Energy E16	x	x	x			
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			

**6.6 Diagnostic 1 (RR 15)**

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	72	460	0	25920	-
1003	Date (yy.mm.dd)	x	x	x		x	
1002	Time (hh.mm.ss)	x	x	x		x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
68	Volume V1	x	x	x			
72	Mass M1	x	x	x			
99/369	Info code	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
74	Flow V1 actual					x	

6.7 Diagnostic 2 (RR 16)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	-	12960	-
1003	Date [yy.mm.dd]	x	x	x		x	
1002	Time [hh.mm.ss]	x	x	x		x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
68	Volume V1	x	x	x			
69	Volume V2	x	x	x			
72	Mass M1	x	x	x			
73	Mass M2	x	x	x			
369	Info bits	x	x	x			
1004	Operating hours	x	x	x			
175	Error hour counter	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	-	12960	-
1003	Date [yy.mm.dd]	x	x	x		x	
1002	Time [hh.mm.ss]	x	x	x		x	
379	t1 time average day			x			
380	t2 time average day			x			
505	P1 average day			x			
506	P2 average day			x			
86	t1 actual (2 decimals)					x	
87	t2 actual (2 decimals)					x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

6.8 Kiev (RR 17)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
611	Energy E12	x	x	x			
612	Energy E13	x	x	x			
613	Energy E14	x	x	x			
614	Energy E15	x	x	x			
615	Energy E16	x	x	x			
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1600	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
355	COP year	x					
367	COP month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
1004	Operating hours	x	x	x			
175	Error hour counter	x	x	x			

**6.9 Information sensitive (RR 18)**

<b>MULTICAL® 803</b>							
<b>Register ID (dec)</b>	<b>Register name</b>	<b>Year</b>	<b>Month</b>	<b>Day</b>	<b>Hour</b>	<b>Minute 1</b>	<b>Minute 2</b>
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		20	36	-	-	-	-
1003	Date [yy.mm.dd]	x	x				
1002	Time [hh.mm.ss]	x	x				
60	Heat energy E1	x					
63	Cooling energy E3	x					
68	Volume V1	x					
99/369	Info code	x					
1004	Operating hours	x	x				
175	Error hour counter	x	x				

6.10 Norton (RR 19)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	11000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x			
63	Cooling energy E3	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
474	Energy E11	x	x	x			
64	Tariff TA2	x	x	x			
65	Tariff TA3	x	x	x			
362	Tariff TA4	x	x	x			
68	Volume V1	x	x	x			
69	Volume V2	x	x	x			
84	Pulse input A1	x	x	x			
85	Pulse input B1	x	x	x			
224	Pulse input A2	x	x	x			
225	Pulse input B2	x	x	x			
369	Info bits	x	x	x			
1004	Operating hours	x	x				
175	Error hour counter	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
122	t4 actual [2 decimals]					x	
89	t1_t2 diff. temp. [2 decimals]					x	

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	11000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

6.11 Athens (RR 20)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	24	390	5952	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
473	Energy E10	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
72	Mass M1	x	x				
73	Mass M2	x	x				
369	Info bits	x	x	x	x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
86	t1 actual [2 decimals]			x	x		
87	t2 actual [2 decimals]			x	x		
88	t3 actual [2 decimals]			x	x		
89	t1_t2 diff. temp. [2 decimals]			x	x		
74	Flow V1 actual			x	x		
75	Flow V2 actual			x	x		
80	Power E1/E3 actual			x	x		

6.12 Noe (RR 21)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		16	72	2190	2160	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
473	Energy E10	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
369	Info bits	x	x	x	x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				

6.13 Munich (RR 22)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	15m	...m
<b>Logger depth</b>		20	72	730	4000	4000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
63	Cooling energy E3	x	x	x	x	x	
97	Energy E8	x	x				
110	Energy E9	x	x				
613	Energy E14	x	x				
614	Energy E15	x	x				
615	Energy E16	x	x				
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x	x	
84	Pulse input A1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
369	Info bits	x	x	x	x		
1004	Operating hours	x	x	x	x		
175	Error hour counter	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
86	t1 actual [2 decimals]				x	x	
87	t2 actual [2 decimals]				x	x	
89	t1_t2 diff. temp. [2 decimals]				x	x	
74	Flow V1 actual				x	x	
80	Power E1/E3 actual				x	x	

6.14 Tartu (RR 23)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	...m	...m
<b>Logger depth</b>		5	12	-	-	6400	-
1003	Date (yy.mm.dd)	x	x			x	
1002	Time (hh.mm.ss)	x	x			x	
60	Heat energy E1	x	x			x	
63	Cooling energy E3	x	x			x	
97	Energy E8	x	x			x	
110	Energy E9	x	x			x	
68	Volume V1	x	x			x	
69	Volume V2	x	x			x	
84	Pulse input A1	x	x			x	
85	Pulse input B1	x	x			x	
224	Pulse input A2	x	x				
225	Pulse input B2	x	x				
369	Info bits	x	x			x	
1004	Operating hours	x	x			x	
175	Error hour counter	x	x			x	
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
142	Power max month date		x				
143	Power max month		x				
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
74	Flow V1 actual					x	
75	Flow V2 actual					x	
80	Power E1/E3 actual					x	
91	P1 actual					x	
92	P2 actual					x	

6.15 Wetzlar (RR 24)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	10m	...m
Logger depth		20	36	460	1400	15000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
60	Heat energy E1	x	x	x	x	x	
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
611	Energy E12	x	x				
612	Energy E13	x	x				
613	Energy E14	x	x				
614	Energy E15	x	x				
615	Energy E16	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
369	Info bits	x	x	x	x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	10m	...m
Logger depth		20	36	460	1400	15000	-
1003	Date [yy.mm.dd]	x	x	x	x	x	
1002	Time [hh.mm.ss]	x	x	x	x	x	
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
86	t1 actual (2 decimals)						x
87	t2 actual (2 decimals)						x
74	Flow V1 actual						x
80	Power E1/E3 actual						x

6.16 Doetinchem (RR 25)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	5000	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x	x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x	x		
62	Outlet energy E5	x	x	x	x		
95	Tap water energy E6	x	x	x	x		
96	Tap water energy E7	x	x	x	x		
97	Energy E8	x	x	x	x		
110	Energy E9	x	x	x	x		
473	Energy E10	x	x	x	x		
474	Energy E11	x	x	x	x		
611	Energy E12	x	x	x	x		
612	Energy E13	x	x	x	x		
613	Energy E14	x	x	x	x		
614	Energy E15	x	x	x	x		
615	Energy E16	x	x	x	x		
178	Differential energy dE	x	x	x	x		
179	Control energy cE	x	x	x	x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
180	Differential volume dV	x	x	x	x		
181	Control volume cV	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
369	Info bits	x	x	x	x		
1004	Operating hours	x	x				
175	Error hour counter	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	1m	...m
Logger depth		20	36	460	1400	5000	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
86	t1 actual [2 decimals]					x	
87	t2 actual [2 decimals]					x	
88	t3 actual [2 decimals]					x	
122	t4 actual [2 decimals]					x	

6.17 Default (RR 30)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	1m
Logger depth		20	36	460	72	96	360
1003	Date [yy.mm.dd]	x	x	x	x	x	x
1002	Time [hh.mm.ss]	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
94	Heat energy E2	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
61	Inlet energy E4	x	x	x	x	x	x
62	Outlet energy E5	x	x	x	x	x	x
95	Tap water energy E6	x	x	x	x	x	x
96	Tap water energy E7	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
473	Energy E10	x	x	x	x	x	x
474	Energy E11	x	x	x	x	x	x
611	Energy E12	x	x	x	x	x	x
612	Energy E13	x	x	x	x	x	x
613	Energy E14	x	x	x	x	x	x
614	Energy E15	x	x	x	x	x	x
615	Energy E16	x	x	x	x	x	x
178	Differential energy dE	x	x	x	x	x	x
179	Control energy cE	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
69	Volume V2	x	x	x	x	x	x
180	Differential volume dV	x	x	x	x	x	x
181	Control volume cV	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
224	Pulse input A2	x	x	x	x	x	x
225	Pulse input B2	x	x	x	x	x	x
72	Mass M1	x	x	x	x	x	x
73	Mass M2	x	x	x	x	x	x
616	Mass M3	x	x	x	x	x	x
617	Mass M4	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	15m	1m
Logger depth		20	36	460	72	96	360
1003	Date [yy.mm.dd]	x	x	x	x	x	x
1002	Time [hh.mm.ss]	x	x	x	x	x	x
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
355	COP year	x					
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
88	t3 actual [2 decimals]		x	x	x	x	x
122	t4 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
75	Flow V2 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
91	P1 actual		x	x	x	x	x
92	P2 actual		x	x	x	x	x

6.18 Default, 30 min (RR 31)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
94	Heat energy E2	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
61	Inlet energy E4	x	x	x	x	x	x
62	Outlet energy E5	x	x	x	x	x	x
95	Tap water energy E6	x	x	x	x	x	x
96	Tap water energy E7	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
473	Energy E10	x	x	x	x	x	x
474	Energy E11	x	x	x	x	x	x
611	Energy E12	x	x	x	x	x	x
612	Energy E13	x	x	x	x	x	x
613	Energy E14	x	x	x	x	x	x
614	Energy E15	x	x	x	x	x	x
615	Energy E16	x	x	x	x	x	x
178	Differential energy dE	x	x	x	x	x	x
179	Control energy cE	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
69	Volume V2	x	x	x	x	x	x
180	Differential volume dV	x	x	x	x	x	x
181	Control volume cV	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
224	Pulse input A2	x	x	x	x	x	x
225	Pulse input B2	x	x	x	x	x	x
72	Mass M1	x	x	x	x	x	x
73	Mass M2	x	x	x	x	x	x
616	Mass M3	x	x	x	x	x	x
617	Mass M4	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	72	96	360
1002	Time (hh.mm.ss)	x	x	x	x	x	x
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
367	COP Month						
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
86	t1 actual [2 decimals]		x	x	x	x	x
87	t2 actual [2 decimals]		x	x	x	x	x
88	t3 actual [2 decimals]		x	x	x	x	x
122	t4 actual [2 decimals]		x	x	x	x	x
89	t1_t2 diff. temp. [2 decimals]		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
75	Flow V2 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
91	P1 actual		x	x	x	x	x
92	P2 actual		x	x	x	x	x

6.19 Europa (RR 32)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x	x	x	x
94	Heat energy E2	x	x	x	x	x	x
63	Cooling energy E3	x	x	x	x	x	x
61	Inlet energy E4	x	x	x	x	x	x
62	Outlet energy E5	x	x	x	x	x	x
95	Tap water energy E6	x	x	x	x	x	x
96	Tap water energy E7	x	x	x	x	x	x
97	Energy E8	x	x	x	x	x	x
110	Energy E9	x	x	x	x	x	x
473	Energy E10	x	x	x	x	x	x
474	Energy E11	x	x	x	x	x	x
611	Energy E12	x	x	x	x	x	x
612	Energy E13	x	x	x	x	x	x
613	Energy E14	x	x	x	x	x	x
614	Energy E15	x	x	x	x	x	x
615	Energy E16	x	x	x	x	x	x
364	Heat energy A1	x	x	x	x	x	x
365	Heat energy A2	x	x	x	x	x	x
64	Tariff TA2	x	x	x	x	x	x
65	Tariff TA3	x	x	x	x	x	x
362	Tariff TA4	x	x	x	x	x	x
68	Volume V1	x	x	x	x	x	x
69	Volume V2	x	x	x	x	x	x
84	Pulse input A1	x	x	x	x	x	x
85	Pulse input B1	x	x	x	x	x	x
224	Pulse input A2	x	x	x	x	x	x
225	Pulse input B2	x	x	x	x	x	x
72	Mass M1	x	x	x	x	x	x
73	Mass M2	x	x	x	x	x	x
616	Mass M3	x	x	x	x	x	x
617	Mass M4	x	x	x	x	x	x
369	Info bits	x	x	x	x	x	x
1004	Operating hours	x	x	x	x	x	x
175	Error hour counter	x	x	x	x	x	x
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	30m	1m
Logger depth		20	36	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x	x	x
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
355	COP year	x					
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		
86	t1 actual (2 decimals)		x	x	x	x	x
87	t2 actual (2 decimals)		x	x	x	x	x
88	t3 actual (2 decimals)		x	x	x	x	x
122	t4 actual (2 decimals)		x	x	x	x	x
89	t1_t2 diff. temp. (2 decimals)		x	x	x	x	x
74	Flow V1 actual		x	x	x	x	x
75	Flow V2 actual		x	x	x	x	x
80	Power E1/E3 actual		x	x	x	x	x
91	P1 actual		x	x	x	x	x
92	P2 actual		x	x	x	x	x

6.20 AT OPT-IN (RR 40)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x	x			
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x	x			
62	Outlet energy E5	x	x	x			
95	Tap water energy E6	x	x	x			
96	Tap water energy E7	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
611	Energy E12	x	x	x			
612	Energy E13	x	x	x			
613	Energy E14	x	x	x			
614	Energy E15	x	x	x			
615	Energy E16	x	x	x			
364	Heat energy A1	x	x	x	x		
365	Heat energy A2	x	x	x	x		
64	Tariff TA2	x	x	x	x		
65	Tariff TA3	x	x	x	x		
362	Tariff TA4	x	x	x	x		
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
224	Pulse input A2	x	x	x	x		
225	Pulse input B2	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
616	Mass M3	x	x	x	x		
617	Mass M4	x	x	x	x		
369	Info bits	x	x	x	x		
1004	Operating hours	x	x				
175	Error hour counter	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	72	460	1400	-	-
1002	Time (hh.mm.ss)	x	x	x	x		
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		
478	t3 time average hour				x		
636	t4 time average hour				x		
505	P1 average day			x			
506	P2 average day			x			
507	P1 average hour				x		
508	P2 average hour				x		

6.21 AT OPT-STD (RR 41)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	-	-	-	-
1002	Time (hh.mm.ss)	x	x				
60	Heat energy E1	x	x				
94	Heat energy E2	x	x				
63	Cooling energy E3	x	x				
61	Inlet energy E4	x	x				
62	Outlet energy E5	x	x				
95	Tap water energy E6	x	x				
96	Tap water energy E7	x	x				
97	Energy E8	x	x				
110	Energy E9	x	x				
473	Energy E10	x	x				
474	Energy E11	x	x				
611	Energy E12	x	x				
612	Energy E13	x	x				
613	Energy E14	x	x				
614	Energy E15	x	x				
615	Energy E16	x	x				
364	Heat energy A1	x	x				
365	Heat energy A2	x	x				
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x				
69	Volume V2	x	x				
84	Pulse input A1	x	x				
85	Pulse input B1	x	x				
224	Pulse input A2	x	x				
225	Pulse input B2	x	x				
72	Mass M1	x	x				
73	Mass M2	x	x				
616	Mass M3	x	x				
617	Mass M4	x	x				
369	Info bits	x	x				
1004	Operating hours	x	x				
175	Error hour counter	x	x				
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	-	-	-	-
1002	Time (hh.mm.ss)	x	x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
355	COP year	x					
367	COP Month		x				

6.22 AT OPT-OUT (RR 42)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		1	-	-	-	-	-
1002	Time (hh.mm.ss)	x					
60	Heat energy E1	x					
94	Heat energy E2	x					
63	Cooling energy E3	x					
61	Inlet energy E4	x					
62	Outlet energy E5	x					
95	Tap water energy E6	x					
96	Tap water energy E7	x					
97	Energy E8	x					
110	Energy E9	x					
473	Energy E10	x					
474	Energy E11	x					
611	Energy E12	x					
612	Energy E13	x					
613	Energy E14	x					
614	Energy E15	x					
615	Energy E16	x					
178	Differential energy dE	x					
179	Control energy cE	x					
364	Heat energy A1	x					
365	Heat energy A2	x					
64	Tariff TA2	x					
65	Tariff TA3	x					
362	Tariff TA4	x					
68	Volume V1	x					
69	Volume V2	x					
84	Pulse input A1	x					
85	Pulse input B1	x					
224	Pulse input A2	x					
225	Pulse input B2	x					
72	Mass M1	x					
73	Mass M2	x					
616	Mass M3	x					
617	Mass M4	x					
369	Info bits	x					
1004	Operating hours	x					
175	Error hour counter	x					
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
599	t1 max year date/time	x					

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		1	-	-	-	-	-
1002	Time (hh.mm.ss)	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
355	COP year	x					

6.23 AT OPT-STD-Daily (RR 43)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	1	-	-	-
1002	Time (hh.mm.ss)	x	x	x	x	x	x
60	Heat energy E1	x	x	x			
94	Heat energy E2	x	x	x			
63	Cooling energy E3	x	x	x			
61	Inlet energy E4	x	x	x			
62	Outlet energy E5	x	x	x			
95	Tap water energy E6	x	x	x			
96	Tap water energy E7	x	x	x			
97	Energy E8	x	x	x			
110	Energy E9	x	x	x			
473	Energy E10	x	x	x			
474	Energy E11	x	x	x			
611	Energy E12	x	x	x			
612	Energy E13	x	x	x			
613	Energy E14	x	x	x			
614	Energy E15	x	x	x			
615	Energy E16	x	x	x			
364	Heat energy A1	x	x	x			
365	Heat energy A2	x	x	x			
64	Tariff TA2	x	x	x			
65	Tariff TA3	x	x	x			
362	Tariff TA4	x	x	x			
68	Volume V1	x	x	x			
69	Volume V2	x	x	x			
84	Pulse input A1	x	x	x			
85	Pulse input B1	x	x	x			
224	Pulse input A2	x	x	x			
225	Pulse input B2	x	x	x			
72	Mass M1	x	x	x			
73	Mass M2	x	x	x			
616	Mass M3	x	x	x			
617	Mass M4	x	x	x			
369	Info bits	x	x	x			
1004	Operating hours	x	x	x			
175	Error hour counter	x	x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
129	Power min year date	x					
130	Power min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		2	28	1	-	-	-
1002	Time (hh.mm.ss)	x	x	x	x	x	x
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
144	Power min month date		x				
145	Power min month		x				
599	t1 max year date/time	x					
603	t1 max year	x					
601	t1 min year date/time	x					
605	t1 min year	x					
591	t2 max year date/time	x					
595	t2 max year	x					
593	t2 min year date/time	x					
597	t2 min year	x					
598	t1 max month date/time		x				
602	t1 max month		x				
600	t1 min month date/time		x				
604	t1 min month		x				
590	t2 max month date/time		x				
594	t2 max month		x				
592	t2 min month date/time		x				
596	t2 min month		x				
355	COP year	x					
367	COP Month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
505	P1 average day			x			
506	P2 average day			x			
86	t1 actual (2 decimals)			x			
87	t2 actual (2 decimals)			x			
88	t3 actual (2 decimals)			x			
122	t4 actual (2 decimals)			x			
74	Flow V1 actual			x			
75	Flow V2 actual			x			
80	Power E1/E3 actual			x			

6.24 LinkIQ (RR 50)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x				
474	Energy E11		x				
611	Energy E12		x				
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x				
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x				
73	Mass M2		x				
616	Mass M3		x				
617	Mass M4		x				
369	Info bits		x	x			
1004	Operating hours		x	x			
175	Error hour counter		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
142	Power max month date		x				
143	Power max month		x				
86	t1 actual [2 decimals]		x				
87	t2 actual [2 decimals]		x				
88	t3 actual [2 decimals]		x				
122	t4 actual [2 decimals]		x				

6.25 LinkIQ 2 (RR 51)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x				
474	Energy E11		x				
611	Energy E12		x				
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x				
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x				
73	Mass M2		x				
616	Mass M3		x				
617	Mass M4		x				
369	Info bits		x	x			
1004	Operating hours		x	x			
175	Error hour counter		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
478	t3 time average hour				x		
636	t4 time average hour				x		
86	t1 actual (2 decimals)		x		x		
87	t2 actual (2 decimals)		x		x		
88	t3 actual (2 decimals)		x				
122	t4 actual (2 decimals)		x				
74	Flow V1 actual				x		

6.26 LinkIQ 3 (RR 52)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x				
474	Energy E11		x				
611	Energy E12		x				
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x				
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x				
73	Mass M2		x				
616	Mass M3		x				
617	Mass M4		x				
369	Info bits		x	x			
1004	Operating hours		x	x			
175	Error hour counter		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		<b>1y</b>	<b>1m</b>	<b>1d</b>	<b>1h</b>	<b>..m</b>	<b>..m</b>
<b>Logger depth</b>		<b>20</b>	<b>36</b>	<b>460</b>	<b>1400</b>	<b>-</b>	<b>-</b>
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
478	t3 time average hour				x		
636	t4 time average hour				x		
86	t1 actual [2 decimals]		x		x		
87	t2 actual [2 decimals]		x		x		
88	t3 actual [2 decimals]		x				
122	t4 actual [2 decimals]		x				
74	Flow V1 actual				x		
80	Power E1/E3 actual	x	x	x	x		

6.27 LinkIQ PDO (RR 53)

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
Logger interval		1y	1m	1d	1h	...m	...m
Logger depth		20	36	460	1400	-	-
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1		x	x	x		
94	Heat energy E2		x	x	x		
63	Cooling energy E3		x	x	x		
97	Energy E8		x	x	x		
110	Energy E9		x	x	x		
473	Energy E10		x	x	x		
474	Energy E11		x	x	x		
611	Energy E12		x	x	x		
364	Heat energy A1		x				
365	Heat energy A2		x				
64	Tariff TA2		x				
65	Tariff TA3		x				
362	Tariff TA4		x				
68	Volume V1		x	x	x		
69	Volume V2		x	x	x		
84	Pulse input A1		x				
85	Pulse input B1		x				
224	Pulse input A2		x				
225	Pulse input B2		x				
72	Mass M1		x	x	x		
73	Mass M2		x	x	x		
616	Mass M3		x	x	x		
617	Mass M4		x	x	x		
369	Info bits		x	x			
1004	Operating hours		x	x			
175	Error hour counter		x	x			
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power max year date	x					
128	Power max year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power max month date		x				
143	Power max month		x				
379	t1 time average day			x			
380	t2 time average day			x			
477	t3 time average day			x			
635	t4 time average day			x			
381	t1 time average hour				x		
382	t2 time average hour				x		

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	..m	..m
<b>Logger depth</b>		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
478	t3 time average hour				x		
636	t4 time average hour				x		
86	t1 actual [2 decimals]		x	x	x		
87	t2 actual [2 decimals]		x	x	x		
88	t3 actual [2 decimals]		x	x	x		
122	t4 actual [2 decimals]		x	x	x		
74	Flow V1 actual		x	x	x		
80	Power E1/E3 actual		x	x	x		

**6.28 KM RF (RR 90)**

<b>MULTICAL® 803</b>							
<b>Register ID (dec)</b>	<b>Register name</b>	<b>Year</b>	<b>Month</b>	<b>Day</b>	<b>Hour</b>	<b>Minute 1</b>	<b>Minute 2</b>
<b>Logger interval</b>		<b>1y</b>	<b>1m</b>	<b>1d</b>	<b>1h</b>	<b>...m</b>	<b>...m</b>
<b>Logger depth</b>		<b>20</b>	<b>36</b>	<b>460</b>	<b>1400</b>	<b>-</b>	<b>-</b>
1003	Date (yy.mm.dd)	x	x	x	x		
1002	Time (hh.mm.ss)	x	x	x	x		
60	Heat energy E1	x	x	x	x		
94	Heat energy E2	x	x		x		
63	Cooling energy E3	x	x	x	x		
61	Inlet energy E4	x	x		x		
62	Outlet energy E5	x	x		x		
95	Tap water energy E6	x	x		x		
96	Tap water energy E7	x	x		x		
97	Energy E8	x	x		x		
110	Energy E9	x	x		x		
64	Tariff TA2	x	x				
65	Tariff TA3	x	x				
362	Tariff TA4	x	x				
68	Volume V1	x	x	x	x		
69	Volume V2	x	x	x	x		
84	Pulse input A1	x	x	x	x		
85	Pulse input B1	x	x	x	x		
72	Mass M1	x	x	x	x		
73	Mass M2	x	x	x	x		
99/369	Info code	x	x	x	x		
123	Flow V1 max year date	x					
124	Flow V1 max year	x					
125	Flow V1 min year date	x					
126	Flow V1 min year	x					
127	Power Max year date	x					
128	Power Max year	x					
129	Power Min year date	x					
130	Power Min year	x					
138	Flow V1 max month date		x				
139	Flow V1 max month		x				
140	Flow V1 min month date		x				
141	Flow V1 min month		x				
142	Power Max month date		x				
143	Power Max month		x				
144	Power Min month date		x				
145	Power Min month		x				
1004	Operating hours	x	x		x		
175	Error hour counter	x	x		x		
86	t1 actual (2 decimals)				x		
87	t2 actual (2 decimals)				x		
88	t3 actual (2 decimals)				x		
122	t4 actual (2 decimals)				x		
89	t1-t2 diff. temp. [2 decimals]				x		
74	Flow V1 actual				x		
75	Flow V2 actual				x		

MULTICAL® 803							
Register ID (dec)	Register name	Year	Month	Day	Hour	Minute 1	Minute 2
<b>Logger interval</b>		1y	1m	1d	1h	..m	..m
<b>Logger depth</b>		20	36	460	1400	-	-
1003	Date [yy.mm.dd]	x	x	x	x		
1002	Time [hh.mm.ss]	x	x	x	x		
80	Power E1/E3 actual				x		
91	P1 actual				x		
92	P2 actual				x		

## 7 Available logger registers

Register ID (dec)	Register name	Register description	MULTICAL® 403	MULTICAL® 603	MULTICAL® 803
1003	Date (yy.mm.dd)	Date (yy.mm.dd) for when data is logged or actual date	✓	✓	✓
1002	Time (hh.mm.ss)	Time (hh.mm.ss) Hour, minute, seconds	✓	✓	✓
60	Heat energy E1	$E1 = V1(t1-t2)k$ Heat energy	✓	✓	✓
94	Heat energy E2	$E2 = V2(t1-t2)k$ Heat energy		✓	✓
63	Cooling energy E3	$E3 = V1(t2-t1)k$ Cooling energy	✓	✓	✓
61	Inlet energy E4	$E4 = V1(t1-t3)k$ Inlet energy		✓	✓
62	Outlet energy E5	$E5 = V2(t2-t3)k$ Outlet energy or tap from outlet		✓	✓
95	Tap water energy E6	$E6 = V2(t3-t4)k$ Tap water energy, separate		✓	✓
96	Tap water energy E7	$E7 = V2(t1-t3)k$ Tap water energy from inlet		✓	✓
97	Energy E8	$E8 = V1 \times t1$ (inlet)	✓	✓	✓
110	Energy E9	$E9 = V1 \times t2$ (outlet)	✓	✓	✓
473	Energy E10	$E10 = V1 \times t3$		✓	✓
474	Energy E11	$E11 = V2 \times t3$		✓	✓
611	Energy E12	$E12 = V2 \times (t2-t1)k$ t2 Cooling energy			✓
612	Energy E13	$E13 = V1 \times (t3-t4)k$ t1/t2 Heat energy in serial system			✓
613	Energy E14	$E14 = V2 \times (t3-t4)k$ t3/t4 Heat energy in parallel system			✓
614	Energy E15	$E15 = V1 \times (t4-t3)k$ t1/t2 Cooling energy in serial system			✓
615	Energy E16	$E16 = V2 \times (t4-t3)k$ t3/t4 Cooling energy in parallel system			✓
178	Differential energy dE	Differential energy dE		✓	✓
179	Control energy cE	Control energy cE		✓	✓
364	Heat energy A1	Heat energy with discount A1 (t2 < t5 limit)	✓	✓	✓
365	Heat energy A2	Heat energy with surcharge A2 (t2 > t5 limit)	✓	✓	✓
64	Tariff TA2	Tariff register TA2	✓	✓	✓
65	Tariff TA3	Tariff register TA3	✓	✓	✓
362	Tariff TA4	Tariff register TA4	✓	✓	✓
68	Volume V1	Volume register for Volume 1	✓	✓	✓
69	Volume V2	Volume register for Volume 2		✓	✓
180	Differential volume dV	Differential volume		✓	✓
181	Control volume cV	Control volume		✓	✓
84	Pulse input A1	Extra water meter connected to Input A1	✓	✓	✓
85	Pulse input B1	Extra water or electricity meter connected to Input B1	✓	✓	✓
224	Pulse input A2	Extra water meter connected to Input A2		✓	✓
225	Pulse input B2	Extra water or electricity meter connected to Input B2		✓	✓
72	Mass M1	Mass M1 for volume V1 with t1		✓	✓
73	Mass M2	Mass M2 for volume V2 with t2		✓	✓

Register ID (dec)	Register name	Register description	MULTICAL® 403	MULTICAL® 603	MULTICAL® 803
616	Mass M3	Mass M3 for volume V2 with t3			✓
617	Mass M4	Mass M4 for volume V2 with t4			✓
99/369	Info code / Info bits	Information code	✓	✓	✓
123	Flow V1 max year date	Date for max. flow V1 for the year	✓	✓	✓
124	Flow V1 max year	Value for max. flow V1 for the year	✓	✓	✓
125	Flow V1 min year date	Date for min. flow V1 for the year	✓	✓	✓
126	Flow V1 min year	Value for min. flow V1 for the year	✓	✓	✓
127	Power Max year date	Date for max. power for the year	✓	✓	✓
128	Power Max year	Value for max. power for the year	✓	✓	✓
129	Power Min year date	Date for min. power for the year	✓	✓	✓
130	Power Min year	Value for min. power for the year	✓	✓	✓
138	Flow V1 max month date	Date for max. flow V1 for the month	✓	✓	✓
139	Flow V1 max month	Value for max. flow V1 for the month	✓	✓	✓
140	Flow V1 min month date	Date for min. flow V1 for the month	✓	✓	✓
141	Flow V1 min month	Value for min. flow V1 for the month	✓	✓	✓
142	Power Max month date	Date for max. power for the month	✓	✓	✓
143	Power Max month	Value for max. power for the month	✓	✓	✓
144	Power Min month date	Date for min. power for the month	✓	✓	✓
145	Power Min month	Value for min. power for the month	✓	✓	✓
599	t1 max year date/time	Date and time for max. temperature t1 for the year			✓
603	t1 max year	Value for max. temperature t1 for the year			✓
601	t1 min year date/time	Date and time for min. temperature t1 for the year			✓
605	t1 min year	Value for min. temperature t1 for the year			✓
591	t2 max year date/time	Date and time for max. temperature t2 for the year			✓
595	t2 max year	Value for max. temperature t2 for the year			✓
593	t2 min year date/time	Date and time for min. temperature t2 for the year			✓
597	t2 min year	Value for min. temperature t2 for the year			✓
598	t1 max month date/time	Date and time for max. temperature t1 for the month			✓
602	t1 max month	Value for max. temperature t1 for the month			✓
600	t1 min month date/time	Date and time for min. temperature t1 for the month			✓
604	t1 min month	Value for min. temperature t1 for the month			✓
590	t2 max month date/time	Date and time for max. temperature t2 for the month			✓
594	t2 max month	Value for max. temperature t2 for the month			✓
592	t2 min month date/time	Date and time for min. temperature t2 for the month			✓
596	t2 min month	Value for min. temperature t2 for the month			✓

Register ID (dec)	Register name	Register description	MULTICAL® 403	MULTICAL® 603	MULTICAL® 803
355	COP year	Coefficient Of Performance since last year log	✓	✓	✓
367	COP month	Coefficient Of Performance since last month log	✓	✓	✓
379	t1 time average day	Daily time based average for temperature t1	✓	✓	✓
380	t2 time average day	Daily time based average for temperature t2	✓	✓	✓
477	t3 time average day	Daily time based average for temperature t3		✓	✓
635	t4 time average day	Daily time based average for temperature t4			✓
381	t1 time average hour	Hourly time based average for temperature t1	✓	✓	✓
382	t2 time average hour	Hourly time based average for temperature t2	✓	✓	✓
478	t3 time average hour	Hourly time based average for temperature t3		✓	✓
636	t4 time average hour	Hourly time based average for temperature t4			✓
505	P1 average day	Daily sampled based average for analog input P1		✓	✓
506	P2 average day	Daily sampled based average for analog input P2		✓	✓
507	P1 average hour	Hourly sampled based average for analog input P1		✓	✓
508	P2 average hour	Hourly sampled based average for analog input P2		✓	✓
1004	Operating hours	Accumulated number of operating hours	✓	✓	✓
175	Error hour counter	Accumulated number of error hours	✓	✓	✓
86	t1 actual (2 decimals)	Actual value of temperature t1 with 2 decimals (0.00 °C)	✓	✓	✓
87	t2 actual (2 decimals)	Actual value of temperature t2 with 2 decimals (0.00 °C)	✓	✓	✓
88	t3 actual (2 decimals)	Actual value of temperature t3 with 2 decimals (0.00 °C)		✓	✓
122	t4 actual (2 decimals)	Actual value of temperature t4 with 2 decimals (0.00 °C)		✓	✓
89	t1-t2 diff. temp. (2 decimals)	Actual value of temperature difference t1-t2 with 2 decimals (0.00 K)	✓	✓	✓
74	Flow V1 actual	Actual value of flow V1	✓	✓	✓
75	Flow V2 actual	Actual value of flow V2		✓	✓
80	Power E1/E3 actual	Actual value of power calculated on the basis of E1 or E3 (V1, t1, t2)	✓	✓	
91	P1 actual	Actual value of analog input P1		✓	✓
92	P2 actual	Actual value of analog input P2		✓	✓

\* The sign of the value in the "Power actual" register identifies if the power is calculated of E1 or E3. For heat the "Power actual" will be a positive value and for cooling it will be a negative value. For a heat/cooling meter the sign of the value in the "Power actual" register will change as the differential temperature changes, e.g. if the meter converts from calculating heat energy (E1) to calculating cooling energy (E3).

## 8 Document change log

Rev.	Date	Notes
A1	02_2018	Document created and released. M-Bus config 998, Date changed to come from Year Log.
B1	04-2018	List of abbreviations updated Description of register ID 80 updated. Function of all ZZZ codes updated to include mWh with 4 decimals, GCal, MULTICAL® 603 info codes
C1	07-2019	Added MULTICAL® 803, MULTICAL® 603M and MULTICAL® 803M Config 2x-00-989 - L+G UH 50, temperatures corrected to 1 decimal text wise Configurations added wired M-Bus: 2x-00-309, 2x-00-311, 2x-00-401 Configurations added Wireless M-Bus: 3x-11-117, 3x-11-119, 3x-11-309 3x-12-115, 3x-12-116, 3x-12-118 3x-14-302,3x-14-303 3x-23-202 3x-24-204  E3 coding will onwards use OMS coding, not Kamstrup Manufacturer Specific (HCC)  Added logger profile 17 "Kiev" Added logger profile 18 "Information sensitive"
D1	10-2019	Configurations added wired M-Bus: 2x-00-312, 2x-00-402 Configurations added wireless M-Bus: 3x-10-110, 3x-11-122, 3x-12-105, 3x-12-205, 3x-15-201, 3x-11-309, 3x11-401, 3x-11-402
D2	01-2020	Configurations added wired M-Bus: 2x-00-313 Configurations added wireless M-Bus: 3x-10-126, 3x-10-128, 3x-11-128,3x-11-129, 3x-12-127, 3x-12-128 Added logger profile 20 "Athens" Added logger profile 21 "Noe"
D3	02-2020	Added logger profile 23 "Tartu"
D4	31-03-2020	Added logger profile 50 "LinkIQ" Configurations added wireless M-Bus: 3x-10-130, 3x-11-118, 3x-11-310, 3x-14-118, 3x-12-131, 3x-12-132
D5	14-04-2020	Added logger profile 22 "Munich"
D6	15-05-2020	Added logger profile 24 "Wetzlar" Added logger profile 19 "Norton"
D7	18-06-2020	Added logger profile 25 "Doetinchem"
A1	25-09-2020	Dokumentet 55122245 is replaced by 55122699 ! The wMbus datagrams for modules 30/31 are changed into LinkIQ/wMbus Modules 32/33 55122245_D7_GB.pdf dated 18-06-2020 is the last valid revision for modules 30/31.
A2	28-09-2020	Added logger profile 51 "LinkIQ 2"
A3	11-11-2020 OSK	Added datagrams 32-10-130 32-12-131 32-11-312 32-10-126 32-14-305
A4	20-01-2020	Added logger profile 52 "LinkIQ 3"
A5	10-05-2021 OSK	32-11-134 Added chapter "Battery lifetime wireless datagrams"
A6	23-06-2021	Datagram 32-24-204 marked as not available Datagram 20-00-317 added

## Logger Profiles

Rev.	Date	Notes
A7	14-09-2021 KARN	Tilføjet loggerprofil 603-53 803-53
A8	4-05-2022	Tilføjet 2x-00-320 Analog Profile II ( 2x-00-308 is replaced )
A9	12-10-2022	Tilføjet af KARN 32-11-135 32-11-138 32-11-140