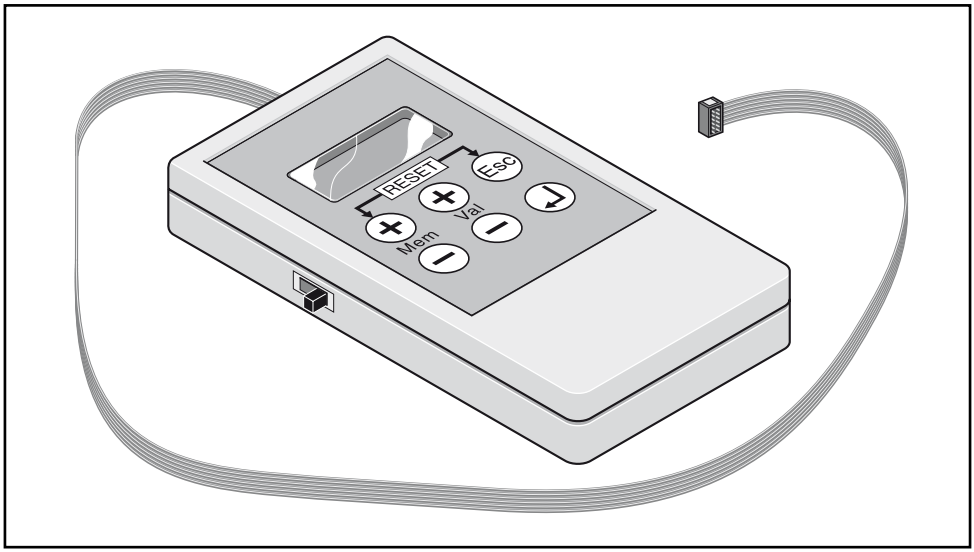
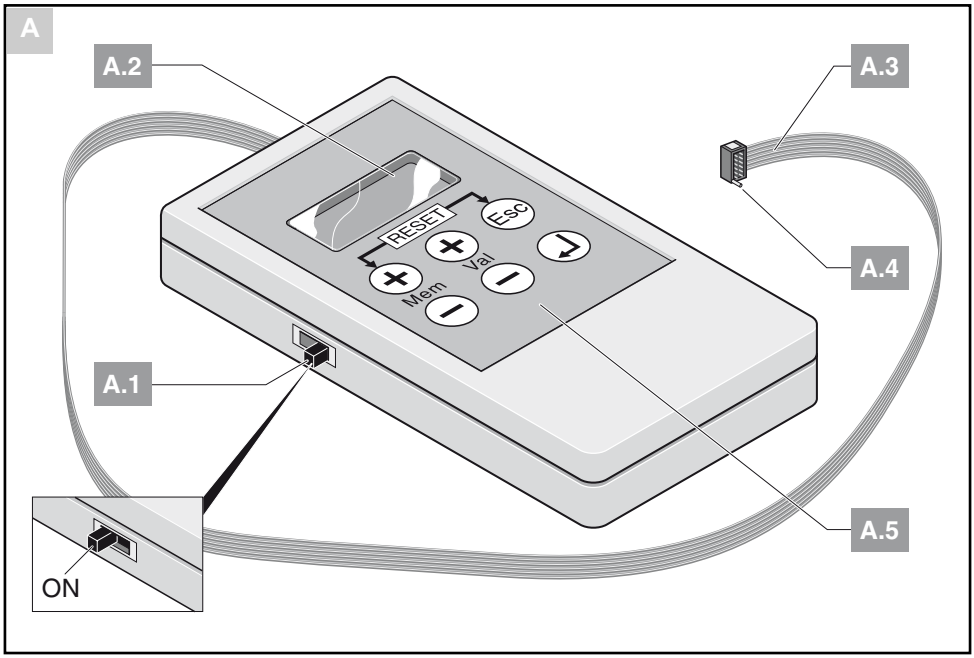
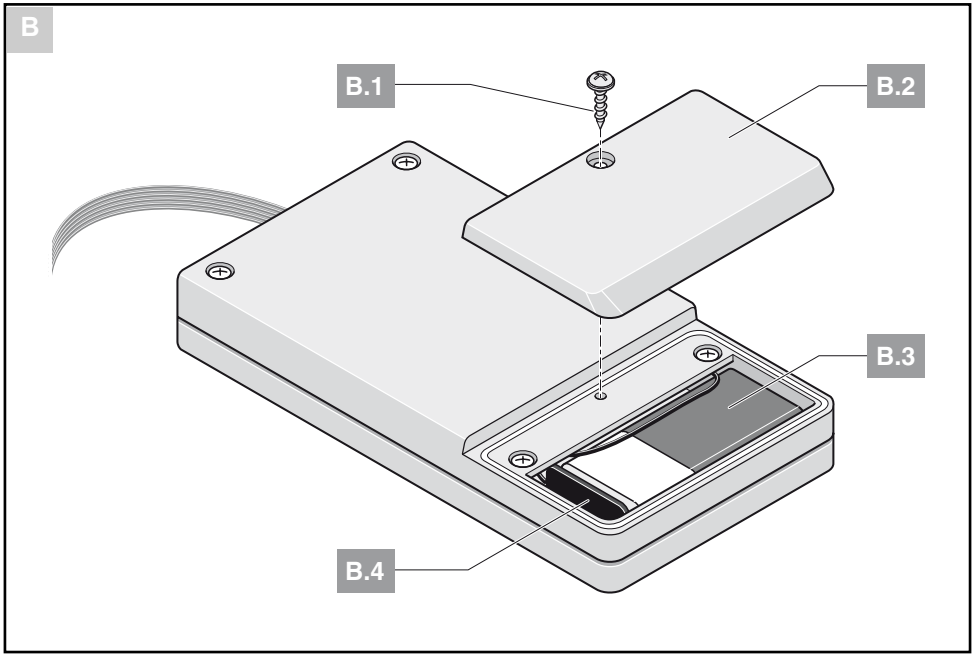
SOMMER
Made in Germany



TorMinal

20310V001-052006-0-OCE-Rev.G


A
A.2
A.3
RESET
Esc
Val
Mem
A.4
A.1
A.5
ON


B
B.1
B.2
B.3
B.4

! Caution !

Valid as from control versions:

- duo 500 SL, sprint 550 SL, duo 650 SL: . . . . . ver 015
- marathon 550 SL, 800 SL, 1100 SL: . . . . . ver 017
- twist 200: . . . . . ver 030
- stargilder 300: . . . . . ver 012
- marathon tiga 800 SL, - 1100 SL: . . . . . ver 010
- starglider 300 E: . . . . . ver 010
- gator 400: . . . . . ver 010
- jive 200: . . . . . ver 030

Earlier control versions are not included here.

Contents

General information

Symbols

Symbol indicating potential danger! Failure to follow instructions may result in serious injury to persons or damage to the drive mechanism!

Information, useful tip.

A.1 (1)

Refers in the introduction or in the body of the text to the corresponding illustration.

General Safety Instructions

- These Operating Instructions (BA) must be read, understood and observed by the person using the TorMinal.
- The manufacturer is not liable for any damage or malfunction caused by failure to observe these Operating Instructions.
- Always disconnect the drive mechanism from the mains supply and ensure it cannot be reconnected before working on either the gate/door or drive mechanism.
- Only use the TorMinal for the purpose described.
- Never use a TorMinal that is known to be damaged.
- Read through these Operating Instructions before using the TorMinal and pay particular attention to the Safety Instructions. Carry out the instructions as described in the order indicated and familiarise yourself with the TorMinal's operation.
- After changing the settings on a given control unit, the drive mechanism's automatic power cut-off should be checked to ensure its compliance with the relevant standards applying at the time.
- Always switch off the TorMinal after use.
- Do not carry the TorMinal by its power cable.

General information

Correct use

- Any malfunction constituting a safety risk is to be eliminated without delay.
- The TorMinal may only be connected to the following drive mechanisms operated via SOMMER
  - sprint 550 SL
  - duo 500 SL, duo 650 SL
  - marathon 550 SL, 800 SL, 1100 SL
  - twist 200 + DSTA24
  - starglider 300
  - marathon tiga 800 SL, 1100 SL
  - starglider 300 E
  - gator 400
  - jive 200 + DSTA24-UF
- SOMMER accepts no liability for changes made to the settings of any given control unit.
- The warranty lapses if any changes are made to the TorMinal's hardware or software.
- SOMMER further accepts no liability for any changes made to a control unit via a TorMinal.
- Do not store or operate the TorMinal in locations subject to wetness, steam, high humidity, dust, sunlight or similar.

Any other or non-compliant use of the TorMinal is not deemed to be correct. SOMMER Antriebs- und Funktechnik GmbH is not liable for any damage incurred as a result of such use; the operator/user bears full responsibility for this. The warranty also lapses in such cases.

Scope of Supply

1 TorMinal incl. 9V block battery and connecting cable

1 set of Operating Instructions

1 Etui

Technical Data

Dimensions :	120 x 65 x 22 mm
Weight :	approx. 140 g (incl. battery and connecting cable)
Battery :	9V block

General information

Display of control version

Note!
The correct display of the control version of the drive system depends on the TorMinal software version. If an incorrect control version is displayed (e.g. Test PCB), you can nevertheless make the necessary modifications.

To update the TorMinal software, return the TorMinal to SOMMER free of charge.

TorMinal with software version 1.00

Drive	Top display	Bottom display
sprint/duo SL	Sprint	e.g.: V0xx.000
marathon SL	Marathon	e.g.: V0xx.000
twist 200	DSTA24	e.g.: V0xx.000
starglider 300	Test-PCB	e.g.: V0xx.000
marathon tiga SL	Test-PCB	e.g.: V0xx.000
starglider 300 E	Test-PCB	e.g.: V0xx.000
gator 400	Test-PCB	e.g.: V0xx.000
jive 200	DSTA24	e.g.: V0xx.000

TorMinal with Softwareversion 1.10 and higher

Drive	Top display	Bottom display
sprint/duo SL	Sprint	e.g.: V0xx.000
marathon SL	Marathon	e.g.: V0xx.000
twist 200	DSTA24	e.g.: V0xx.000
starglider 300	STA24	e.g.: V0xx.000
marathon tiga SL	Test-PCB	e.g.: V0xx.000
starglider 300 E	Test-PCB	e.g.: V0xx.000
gator 400	Test-PCB	e.g.: V0xx.000
jive 200	DSTA24	e.g.: V0xx.000

TorMinal with Softwareversion 1.20 and higher

Drive	Top display	Bottom display
sprint/duo SL	sprint	e.g.: V0xx.000
marathon SL	marathon	e.g.: V0xx.000
twist 200	DSTA24	e.g.: V0xx.000
starglider 300	STA24	e.g.: V0xx.000
marathon tiga SL	tiga	e.g.: V0xx.000
starglider 300 E	Test-PCB	e.g.: V0xx.000
gator 400	Test-PCB	e.g.: V0xx.000
jive 200	DSTA24	e.g.: V0xx.000

General information

TorMinal with software version 1.30 and higher

Drive	Top display	Bottom display
sprint/duo SL	sprint	e.g.: V0xx.000
marathon SL	marathon	e.g.: V0xx.000
twist 200	DSTA24	e.g.: V0xx.000
starglider 300	STA24	e.g.: V0xx.000
marathon tiga SL	tiga	e.g.: V0xx.000
starglider 300 E	STA1	e.g.: V0xx.000
gator 400	STA1	e.g.: V0xx.000
jive 200	DSTA24	e.g.: V0xx.000

Description of Function

A+B Components and their respective functions

The TorMinal is used to check or change the values set on SOMMER drive control units.

A.1 ON/OFF switch

Switches the TorMinal ON or OFF.

A.2 Display

The display comprises 2 x 8 characters. The upper line displays the given memory slot (Mem) and its number whilst the lower line shows the corresponding setting (Val).

A.3 Connecting cablel

This cable connects the TorMinal with the given control unit. The plug is fitted with a safe connecting mechanism (PIN) to ensure that it is always plugged in correctly.

A.4 Safe connecting mechanism

This PIN ensures that the connecting cable (A.3) is always plugged into the control unit correctly.

A.5 Buttons and their respective functions

[Mem +] selects the next memory slot up (e.g. from 014 to 015).

[Mem -] selects the next memory slot down (e.g. from 014 to 013).

[Val +] increases the value.

[Val -] reduces the value.

[Esc] reverses a change in setting that has **not** yet been memorised.

[↵] memorises the value set or confirms a control unit reset.

- Pressing the [Esc] + [Mem +] buttons at the same time reinstates the control unit's default values and all value changes are deleted.

B.3 Battery

The power is supplied by a standard 9V block battery that can be obtained from retail outlets selling batteries or from SOMMER Antriebs- und Funktechnik GmbH. The battery must always be fitted as shown in illustration (B).

B.4 Connecting the battery

This is where the 9V block battery should be connected. Ensure it is connected correctly (polarity)!

Operation

Safety instructions !

Important to note !
Before any change to the settings, reset the control system (deletion of force values, for details see installation and operating manual of your operator). Reset with the TorMinal is not sufficient, as the force values are not deleted and only the parameters that can be adjusted with the TorMinal are reset to the factory values.
The control unit has to relearn the running times and required forces.

Prior to any work at the gate or operator, disconnect the operator system from the power supply and secure it against inadvertent reconnection or actuation.

Do not touch the strip conductors on the control board.

Switching on the TorMinal

A

- Push switch (A.1) into ON position.
  - The message "TorMinal Vx.x" appears on the display showing which version of the TorMinal is being used.
  - If a button is pressed when the TorMinal is not connected to any control unit, the message "!No PCB!" appears
  - If it is connected to a control unit, the control unit type, software version and control unit version are displayed, e.g. as follows:

Connecting TorMinal to a control unit

A

- Take control unit out of drive mechanism - see Installation and Operating Instructions for drive mechanism.
- Connect cable (A.3) to control unit, ensuring correct connection (polarity).
  - the connecting cable's red lead should always point towards the control unit's coding hole.

Reading and displaying settings

- The next time a button is pressed on control panel [A.5], the settings are read and displayed:
  The upper line displays the memory slot (Mem).

  The lower line displays the value set (Val) :
  - "x" preceding setting (Val) means the value cannot be changed.
  - "s" preceding setting (Val) means the value can be changed and memorised.

Operation

Changing and memorising settings

When the setting has been changed, the preceding "s" disappears. This indicates that the setting has been changed but not yet memorised.

Procedure :

1. Select required memory slot (Mem) by pressing buttons Mem + or Mem -, see "Memory Slots and their Respective Functions" section.
2. Change setting by pressing buttons Val + or Val -.
3. When the required value has been set, this is memorised by pressing button ↵ once.
   By way of confirmation, an "s" appears preceding the set and now memorised value.

Reverting values to default settings – Reset

Important to note !
Only the values reset with TorMinal to the factory settings are changed, and no force values are deleted.

1. Press buttons Mem + and Esc at the same time
   - message "Reset to default?" appears
2. Confirm this message by pressing this button ↵, all values thus revert to default settings
   Message "ALL RESET !"

Important to note !
If no reset is required, the procedure can be interrupted by pressing the Esc button.

3. Press any button and the message disappears.

All the values have now reverted to default settings.

Changing the battery

A

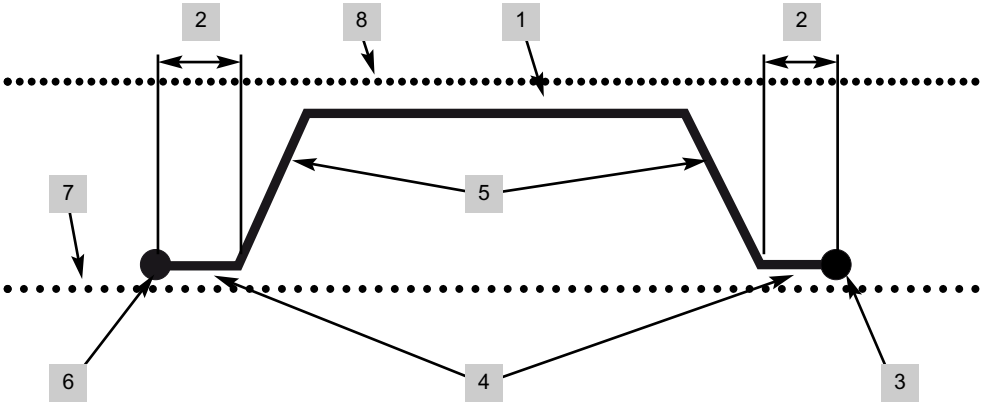
- Switch TorMinal off.
- Remove screw (B.1), open battery compartment (B.2).
- Take battery (B.3) out and disconnect.
- Replace old battery (B.3) with one of the same type.

Ensure battery cable does not get trapped. Ensure correct (+/-) connection !

- Fit battery (B.3), close battery compartment (B.2). Fit screw (B.1) and tighten up.

Explanation of Terms Used

The TorMinal can be used to set SOMMER's new drive mechanisms to suit almost all types of gate/door. The illustration here shows the drive unit's speed curve (default setting without 2) when opening or closing a gate/door.



1. Maximum speed

The drive mechanism's top speed - separately adjustable for opening and closing.

2. Soft run mode

Can be additionally selected and separately adjusted:

- when the drive mechanism leaves its end CLOSE + OPEN positions.
- when the drive mechanism moves into its end CLOSE + OPEN positions

3. Gate/door end OPEN position

Gate/door is open

4. Soft run speed

The drive mechanism's lowest speed - separately adjustable for opening and closing.

Important to note !
The soft run speed must be at least 2 settings lower than the maximum speed.

5. Soft run ramp

The time the drive mechanism needs to reach its maximum or soft run speed.

6. Gate/door end CLOSE position

Gate/door is closed

Explanation of Terms Used

7. Zero line

8. Max. line

The maximum speed that can be set. The speed setting range lies between the zero line and the max. line.

Travel time

The time the drive mechanism needs to close or open a gate/door.

Cycle counter

Cycle = movement, comprising one complete opening and closing movement between the end travel positions. Only when the gate/door reaches the gate/door end CLOSE position is a cycle counted.

Backjump

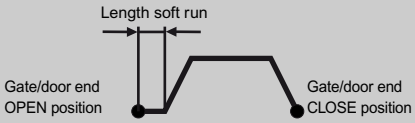
Serves to reduce strain on the gate/door and drive mechanism workings. When the gate/door has reached its end CLOSE position, it moves back a short distance in the direction of gate/door OPEN to thus relieve the gate/door and drive workings.

Memory Slots and their Respective Functions

This is where the settings of the individual memory slots can be read.

The first column displays the memory slot concerned, the second the available setting range (the first number is the lowest and the second number the highest possible setting), the third column describes the given slot's function and the fourth column the given slot's default setting.

sprint 550 SL, duo 500 SL + 650 SL

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val sprint / duo SL
003	_ 1)	Force taught for gate/door opening (OPEN)	255 3)
004	_ 1)	Force taught for gate/door closing (CLOSE)	255 3)
005	_ 1)	Gate/door open travel time (OPEN) Value in steps of 0.25 seconds Example: value shown is 40 = 10 seconds	255 3)
006	_ 1)	Gate/door close travel time (CLOSE) Value in steps of 0.25 seconds Example: value shown is 40 = 10 seconds	255 3)
011	_ 2)	Cycle counter (Z1) Number of cycles: counter status times 256	255 3)
012	_ 2)	Cycle counter (Z2): counts from 0 to 255 Number of cycles in total: Z1 x 256 + Z2 Example: 3 x 256 + 77 = 845	255 3)
013	0 - 255	Partial opening time Size of partial opening, adjustable in steps of 0.25 seconds.	255 3)
017	0 - 255	Length of soft run from gate/door end OPEN position or gate/door end CLOSE position Up until acceleration to maximum speed 0 - no soft run, 255 - max. length 	0
018	0 - 8	Length of soft run ramp High value = long ramp, low value = short ramp	4

1) Value displayed cannot be changed, and is read and memorised by the control unit when the force values and travel times are taught.

2) Value displayed cannot be changed.

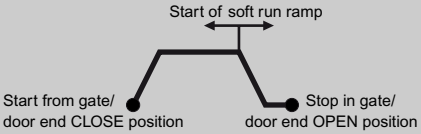
3) When supplied, the value 255 has been set. Once the force values and travel time have been taught, the values that are actually needed are then memorised.

4) Perform reset, otherwise these values cannot be changed.

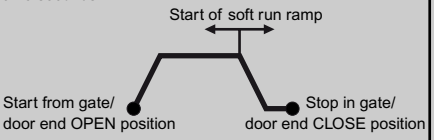
Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val sprint / duo SL
019	15 - 60	Soft run speed when opening	25
020	15 - 60	Maximum speed when opening	55 4)

Note!
Memory position (020) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

021	0 - 40	Start of soft run ramp for gate/door end OPEN position Start of soft run ramp prior to drive mechanism moving into gate/door end OPEN position. Adjustable in steps of 0.25 seconds.  	15
022	15 - 60	Soft run speed when closing	25
023	15 - 60	Maximum speed when closing	45 4)

Note!
Memory position (023) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

024	4 - 40	Start of soft run ramp for gate/door end CLOSE position Start of soft run ramp prior to drive mechanism moving into gate/door end CLOSE position. Adjustable in steps of 0.25 seconds.  	15
028	4 - 40	Early warning period Duration of early warning period, adjustable in steps of 0.25 seconds. 4 = 1 Second, 40 = 10 seconds	12
030	-	No function	5
031	1 - 255	Duration of light ON period after opening of gate/door Adjustable in steps of 1 second.	175
032	1 - 255	Duration of light ON period after closing of gate/door Adjustable in steps of 1 second.	175
033	0 - 255	Back jump Adjustable in steps of 1 millisecond.	20
034	4 - 255	Reversing period Duration of reversing period when safety input has been tripped or when automatic power cut-off occurs. Adjustable in steps of 0.25 seconds.	8

Memory Slots and their Respective Functions

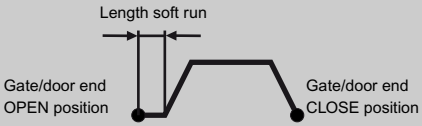
Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val sprint / duo SL
035	0 - 15	Switching soft run ramps ON or OFF This function enables the soft run ramps to be switched ON or OFF individually. All soft run ramps (1 - 4) activated = 15 Ramp 1 (start from gate/door end CLOSE position) ON = 1 Ramp 2 (stop in gate/door end OPEN position) ON = 2 Ramp 3 (start from gate/door end OPEN position) ON = 4 Ramp 4 (stop in gate/door end CLOSE position) ON = 8 Setting and memorising required values Example 1: Switch off ramp 1 + ramp 2: 15 - 1 -2 = 12, input and memorise this value (12). Example 2: Switch on ramp 2 + ramp 4: 2 + 8 = 10, input and memorise this value (10).	15
036	-	No function	0
037	16 - 48	Force tolerance Adjustable additional force tolerance 16 = min. additional force, 48 = max. additional force	48 4)

Note!
Memory position (037) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

047	-	For factory testing purposes	-

Memory Slots and their Respective Functions

marathon 550 SL, 800 SL, 1100 SL

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon SL
003	_ 1)	Force taught when opening gate/door (OPEN)	255 3)
004	_ 1)	Force taught when closing gate/door (CLOSE)	255 3)
005	_ 1)	Travel time when opening gate/door (OPEN) Value in steps of 0.25 seconds Example: value shown 40 = 10 seconds	255 3)
006	_ 1)	Travel time when closing gate/door (CLOSE) Value in steps of 0.25 seconds Example: value shown 40 = 10 seconds	255 3)
011	_ 2)	Cycle counter (Z1) Number of cycles: counter status times 256	255 3)
012	_ 2)	Cycle counter (Z2): counts from 0 to 255 Number of cycles in total: Z1 x 256 + Z2 Example: 3 x 256 + 77 = 845	255 3)
013	0 - 255	Partial opening time Size of partial opening, adjustable in steps of 0.25 seconds.	255 3)
017	0 - 255	Length of soft run from gate/door end OPEN position or gate/door end CLOSE position Up until acceleration to maximum speed 0 - no soft run, 255 - max. length 	0
018	0 - 8	Length of soft run ramp High value = long ramp, low value = short ramp	4
019	15 - 60	Soft run speed when opening	25
020	15 - 60	Maximum speed when opening	55 4)

Note!
Memory position (020) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

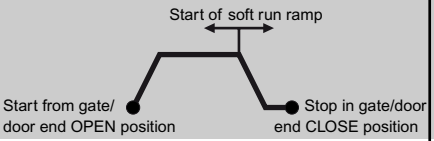
1) Value displayed cannot be changed, and is read and memorised by the control unit when the force values and travel times are taught.

2) Value displayed cannot be changed.

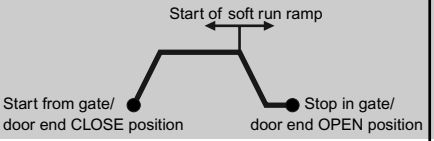
3) When supplied, the value 255 has been set. Once the force values and travel time have been taught, the values that are actually needed are then memorised.

4) Perform reset, otherwise these values cannot be changed.

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon SL
021	0 - 40	Start of soft run ramp for gate/door end OPEN position Start of soft run ramp prior to drive mechanism moving into gate/door end OPEN position. Adjustable in steps of 0.25 seconds.  	15
022	15 - 60	Soft run speed when closing	25
023	15 - 60	Maximum speed when closing	45 4)

Note!
Memory position (023) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

024	4 - 40	Start of soft run ramp for gate/door end CLOSE position Start of soft run ramp prior to drive mechanism moving into gate/door end CLOSE position. Adjustable in steps of 0.25 seconds.  	15
026	0 - 255	Cycle counter for maintenance Indication of a set value which when reached should activate the maintenance signal. Example: input of a set value of 2 means that after 512 cycles the equipment should be serviced. If the next service is required after a further 512 cycles, then a value of 4 has to be input during the given maintenance session.	0
028	4 - 40	Early warning period Duration of early warning period, adjustable in steps of 0.25 seconds. 4 = 1 second, 40 = 10 seconds	12
030	1 - 20	Closing period - light barrier Period during which gate/door is kept open after the light barrier has been crossed - only possible in conjunction with automatic closing mechanism. Adjustable in steps of 1 sec.	5
031	1 - 255	Duration of light ON period after opening of gate/door Adjustable in steps of 1 second.	175
032	1 - 255	Duration of light ON period after closing of gate/door Adjustable in steps of 1 second.	175
033	0 - 255	Back jump Adjustable in steps of 1 millisecond.	20
034	4 - 255	Reversing period Duration of reversing period when safety input has been tripped or when automatic power cut-off occurs. Adjustable in steps of 0.25 seconds.	8

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon SL
035	0 - 255	**1. Switching soft run ramps ON or OFF** This function enables the soft run ramps to be switched ON or OFF individually. All soft run ramps (1 - 4) activated = 15 Ramp 1 (start from gate/door end CLOSE position) ON = 1 Ramp 2 (stop in gate/door end OPEN position) ON = 2 Ramp 3 (start from gate/door end OPEN position) ON = 4 Ramp 4 (stop in gate/door end CLOSE position) ON = 8 Setting and memorising required values Example 1: Switch off ramp 1 + ramp 2: 15 - 1 -2 = 12, input and memorise this value (12). Example 2: Switch on ramp 2 + ramp 4: 2 + 8 = 10, input and memorise this value (10). **2. Functionality of relay output** (terminal 23 + 24) - relay OFF = 0 - pulse generated when motor starts = 16 - status indicator, contact OPEN when gate/door OPEN = 32 - status indicator, contact CLOSED when gate/door OPEN = 48 **3. Maintenance monitoring** Before the maintenance monitoring mode can be activated, the number of cycles requiring monitoring needs to be set on memory slot 026. - monitoring function OFF = 0 - monitoring maintenance cycles = 64 - maintenance alarm has been activated = 128 When the maintenance alarm has been activated, the value set on memory slot 035 is increased by 128. Deleting maintenance alarm: reduce value set on memory slot 035 by 128.	31

Memory slot 035 has several functions (see 1 - 3); all the values need to be added together and input in order to reach the required setting.

Factory settings:

1. All soft run ramps ON	value	15
2. Pulse at motor start ON	value	16
3. Maintenance monitoring OFF	value	0
	total value	31

Example 1:

1. All soft run ramps ON	value	15
2. Relay output OFF	value	0
3. Maintenance monitoring ON	value	64
	gives a total of	79

Input and memorise this value (79) on memory slot 035 to make all the required settings.

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon SL
036	0 - 31	Special functions 2	0 4)

Note!

Memory position (036) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

1. Dead man mode only via button 1 + 2
By pressing button 1, the gate opens; by pressing button 2, the gate closes.
- OFF = 0
- when closing = 1
  (opening also possible via radio)
- when opening and closing = 3

2. Fraba system
- activate Fraba system evaluation = 16
  DIL switch 2 without function

Memory slot 036 has various functions (see 1, 2); to reach the desired setting, all the values have to added together and entered.

Example:

1. Dead man operating mode when closing	value	1
2. Activate Fraba system	value	16
	equals	17

Enter this value (17) for memory slot 036 and save; all the desired settings have thus been made.

037	16 - 48	Force tolerance Adjustable additional force tolerance 16 = min. additional force, 48 = max. additional force	48 4)

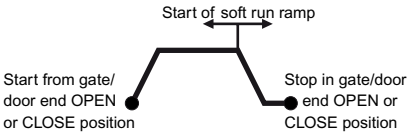
Note!

Memory position (037) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

047	-	For factory testing purposes	-

Memory Slots and their Respective Functions

twist 200 + DSTA24, jive 200 + DSTA24-UF

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val twist 200 + DSTA24 jive 200 + DSTA24-UF
002	_ 2)	Cycle counter (Z1) Number of cycles: counter status times 256	255 3)
003	_ 2)	Cycle counter (Z2): counts from 0 to 255 Number of cycles in total: Z1 x 256 + Z2 Example: 3 x 256 + 77 = 845	255 3)
005	_ 1)	Travel time for gate/door wing 2 to open	255 3)
006	_ 1)	Travel time for gate/door wing 2 to close	255 3)
007	_ 1)	Travel time for gate/door wing 1 to open	255 3)
008	_ 1)	Travel time for gate/door wing 1 to close	255 3)
013	_ 1)	Force taught when opening gate/door wing 2	255 3)
014	_ 1)	Force taught when closing gate/door wing 2	255 3)
015	_ 1)	Force taught when opening gate/door wing 1	255 3)
016	_ 1)	Force taught when closing gate/door wing 1	255 3)
021	0 - 40	Start of soft run ramp for gate/door end OPEN and CLOSE positions Start of soft run ramp prior to drive mechanism moving into gate/door end OPEN or CLOSE position. Adjustable in steps of 0.25 seconds.  	14
019	15 - 60	Soft run speed when closing	25
020	15 - 60	Maximum speed when closing	55 4)
023	4 - 16	-	8
024	2 - 255	Period during which gate/door is kept open - only possible in conjunction with automatic closing mechanism. Period during which gate/door is kept open; adjustable in steps of 1 second.	60
026	0 - 40	Early warning period Duration of early warning period, adjustable in steps of 0.25 seconds. 4 = 1 second, 40 = 10 seconds	12
027	4 - 40	Duration of delay in opening gate/door wing 1 The period after which gate/door wing 1 opens after gate/door wing 2 has already been opened. Adjustable in steps of 0.25 seconds.	10

1) Value displayed cannot be changed, and is read and memorised by the control unit when the force values and travel times are taught.

2) Value displayed cannot be changed.

3) When supplied, the value 255 has been set. Once the force values and travel time have been taught, the values that are actually needed are then memorised.

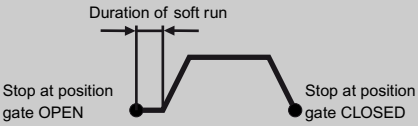
4) Perform reset, otherwise these values cannot be changed.

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val twist 200 + DSTA24 jive 200 + DSTA24-UF
028	8 - 40	Duration of delay in closing gate/door wing 2 The period after which gate/door wing 2 reaches gate/door end CLOSE position after gate/door wing 1 has already reached this position Adjustable in steps of 0.25 seconds.	20
030	1 - 20	Closing period - light barrier Period during which gate/door is kept open after the light barrier has been crossed - only possible in conjunction with automatic closing mechanism. Adjustable in steps of 1 second.	5
031	1 - 255	Switching period of relay contact Period during which the relay contact is closed after the motor has started. Adjustable in steps of 1 second.	3
047	-	For factory testing purposes.	-

Memory Slots and their Respective Functions

starglider 300, starglider 300 E, gator 400

Memory slot Mem	Setting range Val	Description of respective functions	Default settings = Val starglider 300 + 300 E, gator 400
003	_ 1)	Programmed force for gate opening (OPEN)	255 3)
004	_ 1)	Programmed force for gate closing (CLOSED)	255 3)
005	_ 1)	Runtime of gate opening (OPEN) Value in steps of 0.25 seconds Example: displayed value 40 = 10 seconds	255 3)
006	_ 1)	Runtime of gate closing (CLOSED) Value in steps of 0.25 seconds Example: displayed value 40 = 10 seconds	255 3)
011	_ 2)	Cycle counter (Z1) Number of cycles: counter value x 256	255 3)
012	_ 2)	Cycle counter (Z2) counts from 0 to 255 Total number of cycles: Z1 x 256 + Z2 Example: 3 x 256 + 77 = 845	255 3)
013	0 - 255	Partial opening time Extent of partial opening, adjustable in steps of 0.25 seconds	255 3)
017	0 - 255	Duration of soft run from end position gate OPEN or gate CLOSED Time up to acceleration to max. speed 0 - no soft run, 255 - max. duration 	0
018	0 - 8	Length of soft run ramp high value = long ramp, low value = short ramp	4
019	15 - 60	Soft run speed for opening	27
020	15 - 60	Maximum speed for opening	55 4)

Note!
Memory position (020) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

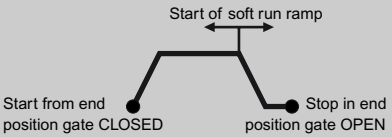
1) Displayed value cannot be changed; established and saved by the control system during teach-in procedures for forces and runtimes.

2) Displayed value cannot be changed.

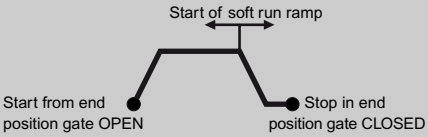
3) The factory settings for this value are 255. After completion of the teach-in procedures for forces and runtimes, the actually required value is stored.

4) To change the values, you must first reset the control system.

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default settings = Val starglider 300 + 300 E, gator 400
021	0 - 40	Start of soft run ramp for end position gate OPEN Start of the soft run ramp before drive moves gate to end position OPEN. Adjustable in steps of 0.25 seconds.  	15
022	15 - 60	Soft run speed for closing	27
023	15 - 60	Maximum speed for closing	45 4)

Note!
Memory position (023) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

024	0 - 40	Start of soft run ramp for end position gate CLOSED Start of the soft run ramp before drive moves gate to end position CLOSED. Adjustable in steps of 0.25 seconds  	15
026	0 - 255	Cycle counter for servicing Enter a value; when this value is reached, a warning is displayed. Example: Entered value: 2: after 512 cycles, the gate is to be serviced. If another service is to be competed after another 512 cycles, enter value “4”.	0
028	4 - 40	Preliminary warning time Duration of preliminary warning time, adjustable in steps of 0.25 seconds. 4 = 1 second, 40 = 10 seconds	12
030	1 - 20	Closing time with light barrier Duration of time during which the gate is kept open after the light barrier is triggered; only in conjunction with automatic closing. Adjustable in steps of 1 second.	5
031	1 - 255	Duration for light ON after opening of gate Adjustable in steps of 1 second.	175
032	1 - 255	Duration for light ON after closing of gate Adjustable in steps of 1 second.	175
034	4 - 255	Reversion time Duration of reversion upon triggering of safety input or in the event of force cut-off. Adjustable in steps of 0.25 seconds.	2

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default settings = Val starglider 300 + 300 E, gator 400
035	0 - 255	1. Switching soft run ramps on/off This function allows you to individually switch on or off soft run ramps. All soft run ramps (1 - 4) ON = 15 Ramp 1 (start from end position gate CLOSED) ON = 1 Ramp 2 (stop in end position gate OPEN) ON = 2 Ramp 3 (start from end position gate OPEN) ON = 4 Ramp 4 (stop in end position gate CLOSED) ON = 8 Enter and save the desired values. Example 1: Ramp 1 + ramp 2 OFF: 15 - 1 -2 = 12; enter and save value 12. Example 2: Ramp 2 + ramp 4 ON: 2 + 8 = 10; enter and save value 10. 2. Functions of relay output (terminals 23 + 24) - Relay OFF = 0 - Pulse at motor start = 16 - Status display; contact open when gate open = 32 - Status display; contact closed when gate open = 48 3. Maintenance monitoring If maintenance monitoring is enabled, enter the number of cycles to be monitored at memory position 026. - Monitoring OFF = 0 - Monitoring of cycles ON = 64 - Monitoring alarm triggered = 128 If the monitoring alarm is triggered, the value at memory position 035 is increased by 128. To delete memory alarm: reduce value at memory position 035 by 128.	26

Memory position 035 is assigned several functions (see 1 - 3); in order to obtain the desired settings, all values must be added and entered. Example 1:

Factory settings:

1. Soft run ramps 2 + 4 ON	value	10
2. Pulse at motor start ON	value	16
3. Maintenance monitoring OFF	value	0
	total value	26

Example 1:

1. All soft run ramps ON	value	15
2. Relay output OFF	value	0
3. Maintenance monitoring ON	value	64
	total value	79

To apply the above settings, value 079 must be entered and saved at memory position 035.

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default settings = Val starglider 300 + 300 E, gator 400
036	0 - 31	Special functions 2	0 4)

Note!
Memory position (036) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

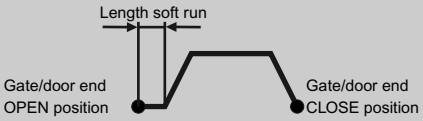
		1. Biased-off operation only with buttons 1 + 2 By pressing button 1, the gate opens; by pressing button 2, the gate closes. - OFF = 0 - For closing = 1 (opening also possible through radio channel 1) - For opening and closing = 3	
037	16 - 255	Force tolerance Adjustable additional force tolerance 16 = min. additional force, 255 = max. additional force	35 4)

Note!
Memory position (037) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

047	-	For factory testing purposes	-

Memory Slots and their Respective Functions

marathon tiga 800 SL + 1100 SL

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon tiga SL
003	_ 1)	Force taught when opening gate/door (OPEN)	255 3)
004	_ 1)	Force taught when closing gate/door (CLOSE)	255 3)
005	_ 1)	Travel time when opening gate/door (OPEN) Value in steps of 0.25 seconds Example: value shown 40 = 10 seconds	255 3)
006	_ 1)	Travel time when closing gate/door (CLOSE) Value in steps of 0.25 seconds Example: value shown 40 = 10 seconds	255 3)
011	_ 2)	Cycle counter (Z0) Number of cycles: counter status times 16.536	255 3)
012	_ 2)	Cycle counter (Z1): Number of cycles in total:256	255 3)
013	_ 2)	Cycle counter (Z2) counts from 0 to 255 Total number of cycles: Z0 × 16.536 + Z1 × 256 + Z2 = number of cycles	255 3)
017	0 - 255	Length of soft run from gate/door end OPEN position or gate/door end CLOSE position Up until acceleration to maximum speed 0 - no soft run, 255 - max. length 	0
018	0 - 8	Length of soft run ramp High value = long ramp, low value = short ramp	4
019	15 - 60	Soft run speed when opening	25
020	15 - 60	Maximum speed when opening	55 4)

Note!
Memory position (020) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

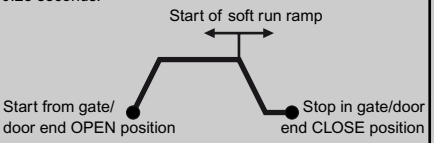
1) Value displayed cannot be changed, and is read and memorised by the control unit when the force values and travel times are taught.

2) Value displayed cannot be changed.

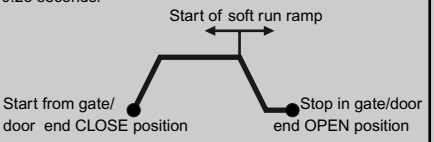
3) When supplied, the value 255 has been set. Once the force values and travel time have been taught, the values that are actually needed are then memorised.

4) Perform reset, otherwise these values cannot be changed.

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon tiga SL
021	0 - 40	Start of soft run ramp for gate/door end OPEN position Start of soft run ramp prior to drive mechanism moving into gate/door end OPEN position. Adjustable in steps of 0.25 seconds.  	15
022	15 - 60	Soft run speed when closing	25
023	15 - 60	Start of soft run ramp for gate/door end	45 4)

Note!
Memory position (023) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

024	0 - 40	Start of soft run ramp for gate/door end CLOSE position Start of soft run ramp prior to drive mechanism moving into gate/door end CLOSE position. Adjustable in steps of 0.25 seconds.  	15
026	0 - 255	Cycle counter for maintenance Indication of a set value which when reached should activate the maintenance signal. Example: input of a set value of 2 means that after 512 cycles the equipment should be serviced. If the next service is required after a further 512 cycles, then a value of 4 has to be input during the given maintenance session.	0
027	0 - 255	Warning time OPEN Duration of early warning period, adjustable in steps of 0.25 seconds. 4 = 1 second, 40 = 10 seconds	16
028	0 - 255	Warning time CLOSE Duration of early warning period, adjustable in steps of 0.25 seconds. 4 = 1 second, 40 = 10 seconds	20
030	1 - 20	Closing time with light barrier or extension of gate open time Depending on DIP switch positions 4 or 5, whereby DIP switch 4 has precedence: DIP 4 OFF: Standard gate open time DIP 4 ON: Gate closes X seconds after the light barrier has been triggered. DIP 5 OFF: Standard gate open time DIP 5 ON: After the light barrier has been triggered, the gate open time is extended by X seconds Adjustable in steps of 1 second.	5

Memory Slots and their Respective Functions

Memory slot Mem	Setting range Val	Description of respective functions	Default setting = Val marathon tiga SL
031	2 - 255	Gate open time Adjustable in steps of 1 second.	30
032	0 - 255	Clearing time Adjustable in steps of 0.25 seconds	40
033	0 - 255	Back jump Adjustable in steps of 1 millisecond.	20
034	4 - 255	Reversing period Duration of reversing period when safety input has been tripped or when automatic power cut-off occurs. Adjustable in steps of 0.25 seconds.	8
035	0 - 255	1. Switching soft run ramps ON or OFF This function enables the soft run ramps to be switched ON or OFF individually. All soft run ramps (1 - 4) activated = 15 Ramp 1 (start from gate/door end CLOSE position) ON = 1 Ramp 2 (stop in gate/door end OPEN position) ON = 2 Ramp 3 (start from gate/door end OPEN position) ON = 4 Ramp 4 (stop in gate/door end CLOSE position) ON = 8 Setting and memorising required values Example 1: Switch off ramp 1 + ramp 2: 15 - 1 -2 = 12, input and memorise this value (12). Example 2: Switch on ramp 2 + ramp 4: 2 + 8 = 10, input and memorise this value (10). 2. Maintenance monitoring Before the maintenance monitoring mode can be activated, the number of cycles requiring monitoring needs to be set on memory slot 026. - monitoring function OFF = 0 - monitoring maintenance cycles = 64 - maintenance alarm has been activated = 128 When the maintenance alarm has been activated, the value set on memory slot 035 is increased by 128. Deleting maintenance alarm: reduce value set on memory slot 035 by 128.	15
037	16 - 60	Force tolerance Adjustable additional force tolerance 16 = min. additional force, 48 = max. additional force	48 4)

Note!
Memory position (037) can only be modified after the control system has been reset (force values deleted). Such a system reset cannot be completed with the TorMinal software.

047	-	For factory testing purposes	-

Miscellaneous

Troubleshooting

Fault/Behaviour - Cause/Message on display	Possible remedial action
Display does not work	
- TorMinal switched off	- Switch TorMinal on
- Display defective - TorMinal dropped on floor	- Replace TorMinal
- Battery flat	- Replace battery
- Display is black	- Connecting cable plugged in incorrectly
Message on display	
- ! No PCB !	- No control unit connected - Connecting cable (A.3) defective
Setting cannot be changed	
- Preceded by an "x"	- Default setting cannot be changed
Reset value to default setting	
- Preceded by an "s"	- Changed value has not been memorised - RESET carried out; all values reverted to default settings

Maintenance/Care

Wipe housing with damp cloth as required. Warm water with a little washing-up liquid or a detergent for plastics can be used.

Disposal

- Warning !
  Risk of burns if battery treated incorrectly. Do not try to set fire to battery, take it to pieces or damage it.
- Do not expose battery to temperatures above 60°C, direct sunlight or extreme humidity.
- Keep battery in safe place well out of reach of children. If battery is swallowed, seek immediate medical attention.
- Always pack battery securely with adhesive tape for storage or disposal purposes to ensure it does not come into contact with other metal objects which could damage it or cause it to ignite.
- Do not dispose of battery or the TorMinal with normal household refuse.
- Immediately dispose of damaged or flat batteries in compliance with local requirements. If in doubt, contact your local environmental agency or refuse disposal company.

Miscellaneous

Warranty and After-sales Service

The warranty extended complies with the relevant statutory regulations. Your contact for possible warranty claims is your specialist retailer. The warranty only extends to the country in which the TorMinal was purchased.

Batteries, fuses and filament lamps are not covered by the warranty. If you require after-sales service, spare parts or accessories, please contact your specialist retailer.

We have tried to make the operating instructions as clear as possible. If you have suggestions how the format can be improved, or if you think that the manual is incomplete, please let us know by sending your suggestions to:

Fax.: 0049 / 7021 / 8001 - 403

email: doku@sommer-torantriebe.de

Explanations/Glossary

Item no.	Designation	Article no.	Quantity	Explanation
	Battery	46005	1	Supplies the Torminal with power.
	Connecting cable			Connects the control unit and the TorMinal.
	MEM			Memory slot
	VAL			Setting

SOMMER Antriebs- und Funktechnik GmbH
Hans-Böckler-Str. 21-27
D-73230 Kirchheim unter Teck