

Service-Information

Tachographs, Telematics & Services

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To: Technical managers / Service technicians	Date: 15th October
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Abroad <input checked="" type="checkbox"/> RSO	Tel.: 07721 / 67-2175
Product / System: DTCO [®] 1381	Fax: 07721 / 67-79 2175
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DTCO[®] 1381

General info about the history and the version descriptions of the DTCO[®]

DTCO software versions which are officially in the field:

Software description shown on the display	The following appears on the Techn. Data printout	Release version	Date first put into field operation
01.02.17	V 10.17	Rel. 1.0	August 2005
01.02.19	V 10.19	Rel. 1.0a	December 2005
01.02.0E	V 12.0E	Rel. 1.2	July 2006
01.02.13	V 12.13	Rel. 1.2a	September 2007
01.02.14	V 12.14	Rel. 1.2u	December 2007
01.03.42	V 13.42	Rel. 1.3	January 2009
01.03.43	V 13.43	Rel. 1.3a	March 2009
01.03.46	V 13.46	Rel. 1.3U	August 2010

The basic algorithms are the same for all devices, in compliance with ANNEX 1b (e.g. driving times and rest periods)!

Additional data like 'High-resolution Speed (4Hz data)' has been retained, since it can be used as a basis for accident evaluation.

With each release, the product has been improved and stabilised.

In contrast to OEM manufacturers, we also focused on enhancing UDS (unified diagnostic services) with each release, in order to comply with ISO 14229.

In Rel.1.2a (also applies to Rel.1.2u) and later versions, the 'Rest Period with Ignition Off' function can be freely programmed.

In Rel. 1.3a and later versions, warning messages now take place in accordance with directive 561/2006/EC.

Additional graphical printouts are also possible. The same applies to 'Integrated Remote Download capability' via CAN 2 and front k-line!

Faster and more effective data throughput can also be achieved for legal downloads in combination with second-generation VDO download tools!

In Rel. 1.3U, additional operating languages like Russian, Ukrainian, Turkish, Bosnian, Croatian and Serbian can be selected.

On the next pages you'll find a comparison of the 'Event Fault Type' events/faults, which are displayed (in compliance with Annex 1b) on VDO digital recording equipment - the DTCO® 1381 Rel. 1.x.

00 ... 0F General events

Annex 1b Code Hex	Annex 1b Code Decmal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 to 1.2a MC	Screen display from DTCO® Rel. 1.3a MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
00	00	No further details					
01	01	Insertion of a non-valid card	Slot 1	!■1 card not valid 48	identical	48	No message will be printed!
			Slot 2	!■2 card not valid 48	!■2 card not valid 66	66	
02	02	Card conflict	---	!■■ cards conflict 29	identical	29	<pre> ----- !■■ 0 21.11.2009 13:32 (0) 00h02 T■■ / 0 0 0 2 0 0 e■■ / 0 0 0 0 0 ----- </pre>
03	03	Time overlap	Card in slot 1	!■■1 time overlap 45	identical	45	<pre> ----- !■■ 4 21.11.2009 13:32 (0) 00h02 e■FIN/500000000005390 0 0 ----- </pre>
			Card in slot 2	!■■2 time overlap 45	!■■2 time overlap 63	63	
04	04	Driving without an appropriate card		!e■ drivins without card 28	identical	28	<pre> ----- !e■ 2 21.10.2009 06:32 (0) 00h02 ■--- ----- </pre>
05	05	Card insertion while driving	Card in slot 1	!■e1 insertion while drivins 46	identical	46	<pre> ----- !■e 4 21.11.2009 13:32 (0) 00h02 e■FIN/500000000005390 0 0 ----- </pre>
			Card in slot 2	!■e2 insertion while drivins 46	!■e2 insertion while drivins 64	64	
06	06	Last card session not correctly closed	Card in slot 1	!■A1 card not closed 44	identical	44	<pre> ----- !■A 4 21.11.2009 13:32 (0) 00h02 e■FIN/500000000005390 0 0 ----- </pre>
			Card in slot 2	!■A2 card not closed 44	!■A2 card not closed 62	62	
07	07	Over speeding		>> overspeed 30	identical	30	<pre> ----- >> 4 21.11.2009 13:32 (0) 00h02 e■FIN/500000000005390 0 0 ----- </pre>
08	08	Power supply interruption		!‡ power interruption	identical	19	<pre> ----- !‡ 2 21.10.2009 06:32 (0) 00h40 ■--- ----- </pre>
				!‡ power interruption	identical	31	

Annex 1b Code Hex	Annex 1b Code Decimal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 bis 1.2a	MC	Screen display from DTCO® Rel. 1.3a MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
09	09	Motion data error		xΛ sensor fault 20		identical	20	<pre> ----- !Λ 1 21.10.2009 06:32 (0) 00h02 TBD / 0 0 0 2 0 0 ----- </pre>
				xΛ sensor fault 21		identical	21	
				xΛ sensor fault 22		identical	22	
0A ... 0F	10 ... 15	RFU (reserved for future use)						

10 ... 1F Vehicle unit related security breach attempts

Annex 1b Code Hex	Annex 1b Code Decimal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 bis 1.2a	MC	Screen display from DTCO® Rel. 1.3a MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
10	16	No further details						
11	17	Motion sensor authentication failure		!0 security breach 23	23	identical	23	!0 05.06.2006 08:03 ! 17 00h15 A D /WS-SW 123
12	18	Tachograph card authentication failure	Card in slot 1	!01 security breach 47	47	identical	47	!0 05.06.2006 08:03 ! 18 00h15
			Card in slot 2	!02 security breach 47	47	!02 security breach 65	65	A D /WS-SW 123
13	19	Unauthorised change of motion sensor		!0 security breach 24	24	identical	24	!0 05.06.2006 08:03 ! 19 00h15 A D /WS-SW 123
14	20	Card data input integrity error	Card in slot 1	!01 security breach 42	42	identical	42	!0 05.06.2006 08:03 ! 20 00h15
			Card in slot 2	!02 security breach 42	42	!02 security breach 60	60	A D /WS-SW 123
15	21	Stored user data integrity error		!0 security breach 25	25	identical	25	!0 05.06.2006 08:03 ! 21 00h15 A D /WS-SW 123
16	22	Internal data transfer error						
17	23	Unauthorised case opening		!0 security breach 26	26	identical	26	!0 05.06.2006 08:03 ! 23 00h15 A D /WS-SW 123
18	24	Hardware sabotage		!0 security breach 27	27	identical	27	!0 05.06.2006 08:03 ! 24 00h15
			Card in slot 1	!01 security breach 43	43	identical	43	A D /WS-SW 123
			Card in slot 2	!02 security breach 43	43	!02 security breach 61	61	
19 ... 1F	25 ... 31	RFU						

20 ... 2F Sensor-related security breach attempts

Annex 1b Code Hex	Annex 1b Code Decimal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 bis 1.2a	MC	Screen display from DTCO® Rel. 1.3a MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
20	32	No further details						
21	33	Authentication failure	Motion sensor (KITAS)	! security breach	18	identical	18	----- ! 05.06.2006 08:03 ! 33 00h15 ! 0 /US-SW 123 -----
22	34	Stored data integrity error	Motion sensor (KITAS)	! security breach	17	identical	17	----- ! 05.06.2006 08:03 ! 34 00h15 ! 0 /US-SW 123 -----
23	35	Internal data transfer error						
24	36	Unauthorised case opening						
25	37	Hardware sabotage						
26 ... 2F	38 ... 47	RFU						

30 ... 3F Recording equipment faults

Annex 1b Code Hex	Annex 1b Code Decimal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 to 1.2a	MC	Screen display from DTCO® Rel. 1.3a	MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
30	48	No further details	CAN fault	xA internal fault	13	identical		13	<pre> ----- XA 0 23.11.2009 13:33 (0) 00h23 TBD / D 0 0 0 0 ----- </pre>
			CAN fault	xA internal fault	14	identical		14	
			Heartbeat message	xA internal fault	15	identical		15	
31	49	VU internal fault	Serious fault	xA internal fault	01	identical		00	<pre> ----- XA 0 21.11.2009 13:32 (0) 00h23 TBD / D 0 0 0 0 ----- </pre>
			Serious fault	xA internal fault	02	identical		02	
			Serious fault	xA internal fault	04	identical		04	
			Serious fault	xA internal fault	05	identical		05	
			Clock	xA time fault	06	identical		06	
			Calibration memory	xA calibration fault	09	identical		09	
32	50	Printer fault	Printer	xP printer fault	11	identical		11	<pre> ----- XP 0 01.10.2009 06:23 (0) 00h01 eBD /0000000000005390 0 0 eFIN/5000000000008860 0 0 ----- </pre>
51	51	Display fault		xD display fault	07	identical		7	<pre> ----- XD 0 01.10.2009 06:23 (0) 00h01 eFIN/5000000000008860 0 0 ----- </pre>
34	52	Downloading fault		xD download fault	12	identical		16	<pre> ----- XD 0 01.10.2009 06:23 (0) 00h01 eBD /0000000000005390 0 0 ----- </pre>
35	53	Sensor fault		xL sensor fault	16				<pre> ----- XL 0 01.10.2009 06:23 (0) 00h55 ----- </pre>
36 ... 3F	54 ... 63	RFU							

40 ... 4F Card faults

Annex 1b Code Hex	Annex 1b Code Decimal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 bis 1.2a	MC	Screen display from DTCO® Rel. 1.3a MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
40	64	No further details	Card function slot 1	x01 card fault	41	identical	41	<pre> ----- XA 0 24.11.2009 13:33 00h00 o0E /E70808521N0000 0 0 ----- </pre>
			Card function slot 2	x02 card fault	41	x02 card fault	59	
41 ... 7F	65 ... 127	RFU						

50 ... 7F RFU (reserved for future use)

80 ... FF manufacturer-specific

Annex 1b Code Hex	Annex 1b Code Decimal	Description in compliance with Annex 1b	Remarks	Screen display Rel. 1.0 bis 1.2a	MC	Screen display from DTCO® Rel. 1.3a MC	Memory code Rel. 1.0 – 1.3a	Example of printout (Events & Faults)
C0	192			x0A internal fault	03	identical	03	<pre> ----- XA 0 21.11.2009 13:32 T0D / 0 0 0 0 ----- </pre>
C2	193		Keypad	x0A internal fault	08	identical	08	No message will be printed!
C3	194		Short circuit at output B7	x0A internal fault	10	identical	10	No message will be printed!