

HIGH PERFORMANCE FOR CARGO TANK DATA MONITORING SOFTWARE FOR WINDOWS

CALTIS II Windows

OUTLINE

CALTIS ${\mathbb I}$ is a software for cargo tank monitoring software. CALTIS ${\mathbb I}$ has been certificated by most ship classification societies and operates with HP COMPAQ MARINE personal computer (recommended). We can build the system to match use's needs.

Software supports LAN and the monitor in each cabin is possible by inboard LAN system connection.

CALTIS II has loading computing module and damage stability, and can monitor and operate loading work functionally from one personal computer.



STANDARD SPECIFICATION

Delivery form

Personal computer pre-install (When soft ware only: CD-ROM)

System requirement

Computer

Personal computer with Windows XP professional (We recommend HP dc7600.)

Basic software

Microsoft Windows XP Professional Microsoft Office 2003

Memory

1GB or more

HDD

40GB, 80GB or more

BASIC PERFORMANCE

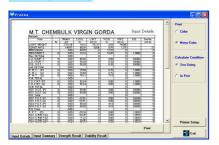
- 1) Constitute with 15 screens (Optional loading computer, Damage stability)
- 2) Control with mouse
- 3) Display of the present tank data and various setting data
- 4) Displacement and tank sounding numerate function
- 5) Display of level by bar graph
- 7) Monitor of cargo handling
- 8) Setup and display of alarm

VERSION

CALTIS II Ver.2.00

DISPLAY SAMPLES

Printing dialog



Select to print out the input data and the calculated results. This has 2 pages, which are "Input Details" and "Calculated Result." Click the tab of the page to display and print button in the page to print.

Planning assist



Select this mode to register up to 16 kinds of loading cargo data, and then input by Metric tons in the mimic diagram of the cargo tanks.

Others

Tank		Rdg. Level	Metric Ton	Cub. Heter	×	S.G.	L.C.G.	V.C.G.	T.C.G.	S.G.1
NO.1 F.O.T. (P)	Sdg	0.000	0.00	0.00	0	0.9900	-72.51	0.00	-1.18	0
NO.1 F.O.T. (S)	Sdg	0.000	0.00	0.00	0	0.9900	-72.51	0.00	1.18	0
NO.2 F.O.T. (P)	Sdg	0.000	0.00	0.00	0	0.9900	58.20	4.10	-8.20	0
NO.2 F.O.T. (S)	Sdg	0.000	0.00	0.00	0	0.9900	58.20	4.10	8.20	0
NO.1 D.O.T. (P)	Sdg	0.000	0.00	0.00	0	0.9000	59.02	0.00	-1.55	0
NO.1 D.O.T. (S)	Sdg	0.000	0.00	0.00	0	0.9000	53.00	0.00	1.44	0
F. W. T. (P)	Sdg	0.000	0.00	0.00	0	1.0000	75.60	8.75	-5.19	0
F. W. T. (S)	Sdg	0.000	0.00	0.00	0	1.0000	75.60	8.75	5.19	0
F. W. T. (C)	Sdg	0.000	0.00	0.00	0	1.0000	76.13	7.10	0.00	0
T.C. F.W.T. (P)	Sdg	0.000	0.00	0.00	0	1.0000	52.24	0.00	-2.03	0
T.C. F.W.T. (S)	Sdg	0.000	0.00	0.00	0	1.0000	52.24	0.00	2.89	0

Input ballast tank data by the reading sounding, weight (M/T), volume (m³) or volume percent. Also, you can change S.G. of the tank if necessary.

Alarm setting

Tank H	igh Level	Low Level	High Temp.	Low Temp.	Ullage Space Over Press.	Ullage Space Low Press.	Ullage Space Under Press.
NO. 1 C.T. (P)	1.492	14,781	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	-40.0 hP
NO. 1 C.T. (S)	1.466	14.769	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	40.0 hP
NO. 2 C.T. [P]	1.502	14,919	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	-40.0 hPs
NO. 2 C.T. (S)	1.578	14.914	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	-40.0 hPs
NO. 3 C.T. (P)	1.530	14.935	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	-40.0 hP
NO. 3 C.T. (S)	1.591	14.936	80.0 °C	0.0 °C	220.0 hPa	70.0 hPa	-40.0 hP
NO. 4 C.T. [P]	1.535	14.940	80.0 °C	0.0 °C	220.0 NPa	70.0 NPa	-40.0 hP
NO. 4 C.T. (S)	1.596	14.941	80.0 °C	0.0 °C	220.0 hPa	70.0 hPa	-40.0 hP
NO. 5 C.T. (P)	1.594	14.948	80.0 °C	0.0 °C	220.0 NPa	70.0 NPa	-40.0 hPs
NO. 5 C.T. (S)	1.588	14.935	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	-40.0 hPs
NO. 6 C.T. (P)	1.594	14.937	80.0 °C	0.0 °C	220.0 NPa	70.0 NPa	-40.0 hP
NO. 6 C.T. (S)	1.597	14,940	80.0 °C	0.0 °C	220.0 hPa	70.0 hPa	-40.0 hP
NO. 7 C.T. (P)	1.575	14.877	80.0 °C	0.0 °C	220.0 NPa	70.0 NPa	-40.0 hP
NO. 7 C.T. [S]	1.583	14,880	80.0 °C	0.0 °C	220.0 hPa	70.0 hPa	-40.0 hP
NO. 8 C.T. (P)	1.515	14.539	80.0 °C	0.0 °C	220.0 NPa	70.0 NPa	-40.0 hP
NO. 8 C.T. (S)	1.512	14,548	80.0 °C	0.0 °C	220.0 hPa	70.0 NPa	-40.0 hP
aper Return Line Pre	nswe			rd evel.			
	Low Pres	s. High Press		G Ale		Default Fig.	
Vapor Return Line -	1 4	5.0 18	1.0	- 744		_	
Vapor Return Line	2 -3	15.0 181	0.0	C Ale	m Off	Close	
Vapor Return Line -	3 -3	15.0 180	2.0				
Vapor Return Line	4 3	5.0 18	0.0				

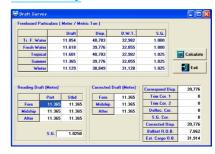
Input or change the warning and dangerous level of tanks. This data is used in the data communication.

Cargo tank data input

Tank /	bbry R.Ulg(n)	C.Ulg(n)	G M3	G.RM	2	S.G.OT	Temp.	Metric Ton
NO. 1 C.T. (P)	1.244		0.000	0		1.00000	15.0 °C	
NO. 1 C.T. (S)	1.229	1.466	0.000	0	0	1.00000	15.0 °C	0.000
NO. 2 C.T. (P)	1.375	1.582	0.000		0	1.00000	15.0 °C	0.000
NO. 2 C.T. (S)	1,369	1.578	0.000		0	1.00000	15.0 °C	0.000
NO. 3 C.T. (P)	1.437	1.590	0.000		0	1.00000	15.0 °C	0.000
NO. 3 C.T. (S)	1.439	1.591	0.000		0	1.00000	15.0 °C	0.000
NO. 4 C.T. (P)	1.386	1.595	0.000		0	1.00000	15.0 °C	0.000
NO. 4 C.T. (S)	1.388	1.596	0.000			1.00000	15.0 °C	0.000
NO. 5 C.T. (P)	1.561	1.594	0.000		0	1.00000	15.0 °C	0.000
NO. 5 C.T. (S)	1.595	1.588	0.000		0	1.00000	15.0 °C	0.000
NO. 6 C.T. (P)	1.386	1.594	0.000	0	0	1.00000	15.0 °C	0.000
NO. 6 C.T. (S)	1,389	1,597	0.000	0		1.00000	15.0 °C	0.000

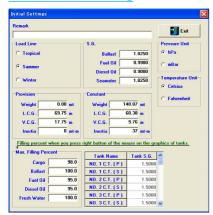
Input the cargo tank data in tabular form by corresponding ullage, gross volume (G/m³), gross volume percent, and weight (Metric Ton). Also, you can change S.G., and Temp. (Deg. C) of the tanks if necessary.

Draft survey



Input all the reading drafts, and S.G. The following are calculated and displayed.

Miscellaneous setting



Select to input miscellaneous settings of the program. You can input/change the followings.

1. Remark

2

- 2. Load line and Draft mark
- 3. Specific gravity (S.G.) of ballast water, fuel oil, diesel oil, and seawater.
- Weight (M/T), L.C.G, and V.K.G. of the provision and the deadweight constant.

Ballast tank data input

Tank		Rdg. Level	Metric Ton	Cub. Meter	2	5.6.	L.C.6.	V.C.G.	T.C.6.	\$.6.4	ľ
F. P. T. (C)	Sdg	0.000	0.00	0.00	0	1.0250	-76.39	0.00	0.00	0	
NO.1 C.W.B.T.(C)	Sdg	0.000	0.00	0.00	0	1.0250	-29.45	0.00	0.00	0	
NO.2 C.W.B.T.(C)	Sdg	0.000	0.00	0.00	0	1.0250	-1.33	0.00	0.00	0	
NO.3 C.W.B.T.(C)	Sdg	0.000	0.00	0.00	0	1.0250	29.05	0.00	0.00	0	
NO.1 W.B.T. (P)	Sdg	0.000	0.00	0.00	0	1.0250	-55.94	0.00	-4.28	0	
N0.1 W.B.T. (S)	Sdg	0.000	0.00	0.00	0	1.0250	-55.94	0.00	4.28	0	
NO.2 W.B.T. (P)	Sdg	0.000	0.00	0.00	0	1.0250	-36.47	0.00	-7.93	0	
NO.2 W.B.T. (S)	Sdg	0.000	0.00	0.00	0	1.0250	-36.47	0.00	7.93	0	
NO.3 W.B.T. (P)	Sdg	0.000	0.00	0.00	0	1.0250	-20.08	0.00	-7.99	0	
N0.3 W.B.T. (S)	Sdg	0.000	0.00	0.00	0	1.0250	-20.08	0.00	7.99	0	
NO.4 W.B.T. (P)	Sdg	0.000	0.00	0.00	0	1.0250	-1.33	0.00	-7.99	0	
NO.4 W.B.T. (S)	Sdg	0.000	0.00	0.00	0	1.0250	-1.33	0.00	7.99	0	
NO.5 W.B.T. (P)	Sdg	0.000	0.00	0.00	0	1.0250	19.59	0.00	-7.93	0	
NO.5 W.B.T. (S)	Sdg	0.000	0.00	0.00	0	1.0250	19.59	0.00	7.93	0	ķ

Input ballast tank data by weight (M/T), volume (m³) or volume percent. Also change S.G. of the tank, if necessary.

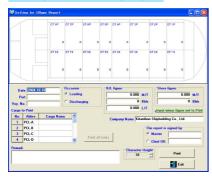
Tank survey

	Cyreo Total Bri								
Tonk	C.T. 1P	C.T. 15	C.T. 2P	C.T. 25	C.T. 3P	C.T. 35	C.T. 4P	C.T. 45	C.T. 98
Cgo Abber									
Density @150	1.00110	1.00110	1.00110	1.00110	1.00110	1.00110	1.00110	1.00110	1.0011
Deg. C	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.0
Rd Ulg	15.440	15.429	15.430	15.430	15.440	15.440	15.460	15.460	15.420
Trim Cor.	0.000	0.000	0.000	8.000	0.000	0.000	8.000	0.000	0.00
Heel Cor.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Gauge Cor.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Cd Utg	15.440	15.420	15.430	15.430	15.440	15.440	15.460	15.460	15.43
Chi.Val.(F1.)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Factor (Vol)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000
Factor (kg/l)	1.0000	1.0000	1,0000	1.0000	1.0000	1.0000	1.0000	1.0000	1,000
M/T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
UT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Obs. Vol. 3:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

Call this function to calculate various ship's figures. The tank table for Ullage stand is used for this calculation.

TOKYO KEISO CO., LTD. TG-ML345-1E

Setting for sounding report



Printing of the result calculated by Tank survey is set up.

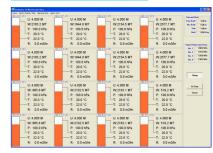
- 1. Input date, port, and voyage number.
- 2. The item of before or after loading etc. is selected.
- 3. Select the tank and print the Tank survey.

Cargo tank data

Tonk.	NO. 1 C.T. (P)	NO. 1 C.T. (5)	ND. 2 C.T. [P]	NO. 2 C.T. (5)	NO. 3 C.T. (P)	NO. 3 C.T. (5)	NO. 4 C.T. (P)	NO. 4 C.T. (5)
Cgs Abbry								
5.6. OT	1.00000	1.00000	1,00000	1,00000	1.00000	1.00000	1.00000	1.0000
Teep.	22.0 °C	22.0 "						
Rd Ulig	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.00
Trim Cor.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Heel Cor.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Gouge Cor.	0.000	8.000	0.000	0.000	0.000	0.000	0.000	0.00
Cd Ulig	4.000	4.000	4,000	4,000	4.000	4.000	4.000	4.00
G/H3	2,077.733	2,077.733	2,154.500	2,154,500	1,643.998	1,643.998	2,163.153	2,163.15
БЛИ	13,069.6	13,068.6	13,551.4	12,551.4	10,340.5	10,340.5	13,605.0	13,605.0
M/T	2,077.733	2,077.733	2,154.500	2,154.500	1,643.990	1,643.990	2,163.153	2,163.15
L/T	2,844.912	2,044.912	2,120.467	2,120.467	1,618.029	1,618.029	2,128.983	2,128.98
6.Pet	72.0	72.0	73.4	73.4	73.9	73.9	73.5	73.5
s Gal								
F.Dreit 3	Si n Trin	1.08 .			Close			

The program calculates the cargo volume and weight from the received tank levels, and displays in tabular form.

Received data summary



The program calculates the cargo volumes and weights from the received tank levels, and displays the weights and the levels with graphics.

Rate trend

Loading/Discharging Rate Trend in Cabic Meter / Hour		
N0.10.T.(P)	EN0.1CT.(8)	
1500 1000 600 600 1017 1 1904 2 1994 3 1004 1000	1500 1000 000 000 000 000 1000 1000 100	
NO. 2 C.T. (P)	NO.10T.(8)	
1500- 1000- 500-	1500- 1000- 600-	
1517 1 Hour 2 Hour 3 Hour 1500 - 1500 -	-0.1617 1 Hour 2 Hour 3 Hour -1000 -1500	
NO.3CT (P)	NO.3CT.(8)	
1500-	1500- 1000-	
	From 2004/10/16 15:17:44	a Car

Call this page to display the loading or discharging rate in the cubic meter per hour for latest 2 hours by the graph.

Cargo tank level



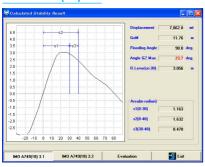
Call this page to display the received cargo tank level (ullage) by the bar graph and figures.

Tank temperature

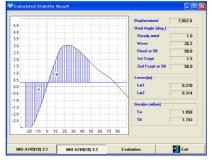
<u>C</u> lose					
Tank	Mean Temp.	Upper Temp.	Lower Temp	High Alarm T.	Low Alarm T.
NO. 1 C.T. (P)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 1 C.T. (S)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 2 C.T. (P)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 2 C.T. (S)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 3 C.T. (P)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 3 C.T. (S)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 4 C.T. (P)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 4 C.T. (S)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 5 C.T. (P)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 5 C.T. (S)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 6 C.T. (P)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
NO. 6 C.T. (S)	22.0 °C	20.0 °C	22.0 °C	80.0 °C	0.0 °C
MO 7 CT (D)	22.0 *C	20.0 *0	22.0 +0	00.0 *0	0.0 *0

Call this page to display temperature at upper, middle, and lower parts in cargo tanks.

Option Loading computer IMO A749 (18) 3.1



IMO A749 (18) 3.2



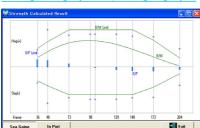
This program calculates the stability in accordance with IMO A749 (18) 3.1 and A749 (18) 3.2.

Strength result (Table)



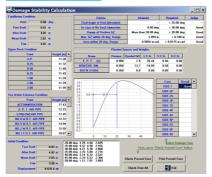
The program calculates and displays the shearing forces, longitudinal bulkhead shearing force and the bending moments in tabular form together with the limit values, and percent to the limits.

Strength in graphics (Strength graph)



The program calculates and displays shearing forces, and bending moments (green curve) in graphics together with the limit values.

Damage stability



Residual stability calculation at the time of hull fracture flood is performed automatically.

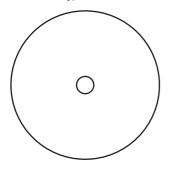
SYSTEM CONFIGURATION

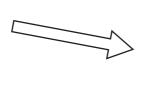
Software (Manufacturer's scope)

CD-ROM

(When soft ware only)











When we prepare a personal computer, install is made at our company.

TFT

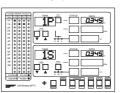


Various level gauges (Manufacturer's scope)

SPT-3500 Hall IC type level gauge Others DC4 to 20mA output (Air purge, Pressure, and Level)



Interface (Manufacturer's scope)



DIR-M1600 series (For SPT-3500)

OPTION

Loading computing module and Damage stability

CALTIS ${\mathbb I}\,$ has a built-in Loading computing module and Damage stability as option.

Loading computing module and Damage stability have type approval of most shipping classification societies, and it can monitor level and operate loading function.

* Specification is subject to change without notice.



Head Office: Shiba Toho Building, 1-7-24 Shibakoen, Minato-ku, Tokyo 105-8558 Tel: 03-3431-1625 (KEY); Fax: 03-3433-4922

e-mail: overseas.sales@tokyokeiso.co.jp; URL: http://www.tokyokeiso.co.jp

