

Hytek C2020 Tank Gauge



Applies to the following models **ONLY**:

C2020...

-0-C23

-A-C23

-A-C25

-A-C27

Please read carefully **BEFORE** commencing installation.

Registered Office: HYTEK (GB) LIMITED,
Delta House, Green Street, Elsenham, Bishop's Stortford,
CM22 6DS UK.

Registered in England No. 1915382

Tel: +44 (0) 1279 815 600

Email: info@hytekgb.com

ENVIRONMENTAL INFORMATION



UK Regulation SI 2013 3113 requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product must be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities.

PRODUCT DESCRIPTION

The Hytek C2020 tank gauge is a simple, electronic gauge for monitoring the fluid level inside fuel storage tanks of any shape or size up to 3m in height. It is designed to be used on diesel, bio fuels and Adblue®. The system utilises a precision electronic pressure sensor to give a consistent and accurate reading.

KIT OPTIONS

TGE.C2020 = Digital gauge kit. 0.3m-3m

TGE.C2020A = Digital gauge with High & Low audible alarm. 0.3m-3m

TGE.C2020A5 = Digital gauge with High & Low audible alarm 0.3m-5m

ATEX ZONE RISK ASSESSMENT QUESTIONS:

1. Is the product in this storage vessel likely to ever reach or exceed its flash point?
2. What is the likelihood that there will be a misting leak for more than 10 hours per year in the area that you are considering for zone control?
3. Are there any other stored products that require ATEX control zone areas nearby?

If the answer is **YES** to either question 1, 2 or 3 then the area will require ATEX zone considerations. Please see our range of ATEX certified gauges or contact Hytek GB Ltd for advice.

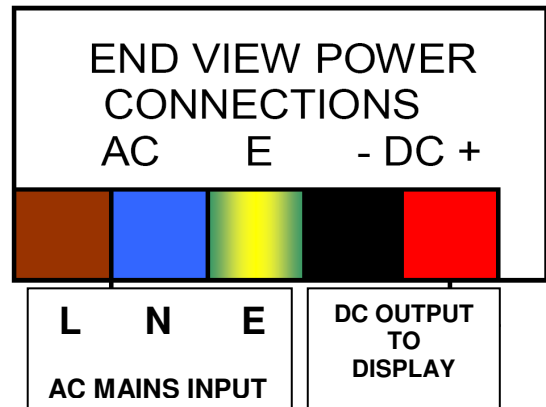
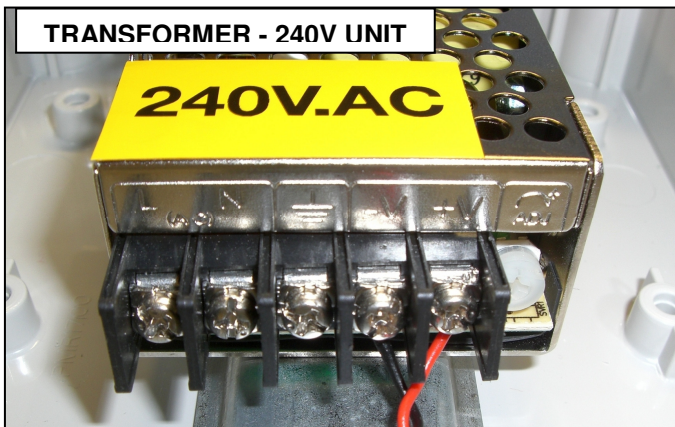
If the answer is **NO** for **ALL** questions 1, 2 & 3 then your risk assessment results in the area being classified as ZONE 2 or possibly safe area. (Please note that ZONE 2 cannot guarantee leaks cannot occur in this area.)

IMPORTANT WARNING NOTES

1. This gauge **MUST NOT** be used to monitor petrol or other flammable liquids.
2. It must not be sited adjacent to a petrol dispenser or in any other hazardous zone. C2020 is for Zone 2 and Safe area applications only.
3. Installation of this equipment and its associated tank fittings should only be carried out by qualified fuel installation engineers.
4. The installation must conform to all relevant electrical and local authority regulations and standards.

INSTALLATION INSTRUCTIONS

1. The gauge can be mounted outside directly on the tank or in the immediate vicinity. The gauge can be mounted up to 100m from the tank top if the supplied probe cable is extended using suitable shielded data cable. A tank mount probe junction box will be required and is available from Hytek. (TXX-JBOX-KIT).
2. Remove the casing and mount the gauge onto a suitable surface using the supplied M4 bolts. Mounting hole positions are shown on the rear of the case. See mounting diagram on page 6.
3. Supply the transformer with a suitable mains power supply. Check model for voltage. See photo and diagram below. The transformer mounting rail can be temporarily removed to allow easier access to the power connection terminals.

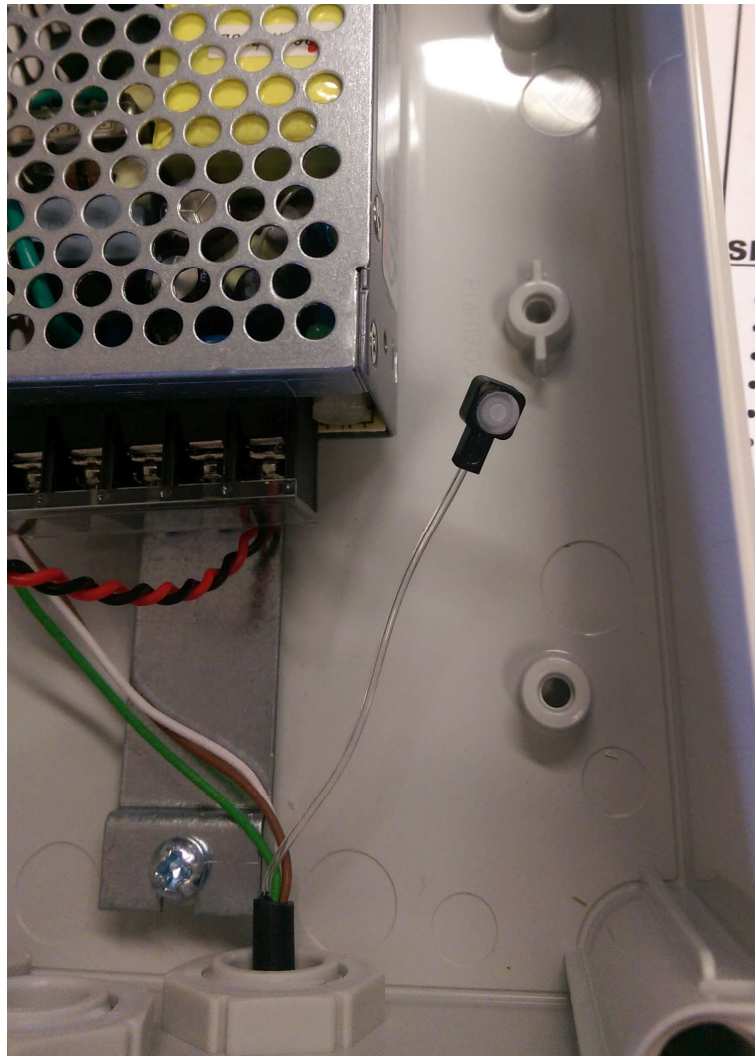


4. Ensure that there is an opening (with a cap or flange) on the top of the tank wide enough for the probe to go through.
5. The supplied plastic tank connector is a 1" BSPT fitting. The optional plastic tank connector (T4020-OJ) is a 30mm compression fitting, which requires a 30mm hole to be cut into the plastic tank.
6. Carefully slide the probe into the tank.
7. **IMPORTANT:** Ensure that the probe is **suspended 50mm** from the bottom of the tank before tightening the gland on the tank top fitting. This will ensure that water or sludge does not affect the probe sensor.
8. Power up the gauge and ensure that the reading is accurate. The gauge is supplied pre-configured by Hytek so no further calibration or set up should be required on site.

IMPORTANT:

Ensure that the breather tube for the probe is not obstructed, sealed or kinked in any way as this will affect the accuracy of the tank gauge.

See photo below showing the breather tube, with breather cap, inside the gauge enclosure.



SPECIFICATIONS

- Power supply: 110/230V AC 50/60Hz.
- Backlit display (Turns off after 1 hour)
- IP65 Fully weatherproof enclosure.
- Accuracy: +/- 1.0% of Tank Capacity.
- -5 to +50 Degree operating temperature.
- Humidity: 5 to 95%.
- Display enclosure is RoHS and CE compliant.
- 2 x Programmable alarm/ trigger set-point.
- High Level / Low Level Local alarm with acknowledge circuit.
- Weatherproof cable glands provided for power supply and tank sensor input.
- One (1) Control output providing dc supply voltage output to the siren (if fitted) or another external device.
- 4 – 20 mA output for connection to BMS system.

OPERATION

The C2020 gauge is very simple to operate. There is a Scroll button, which shows Tank Name, Capacity and Ullage space. This will show for 5 seconds before reverting to the standard display.

There is an Alarm/Test-Mute button. Press to test the alarm (if fitted). This self-resets in 5 seconds.

The backlight will turn off after 1 hour. Pressing any button will turn the backlight back on.

If an alarm has been 'Muted' the Alarm symbol shows a crossed-out image. If a Bund Alarm is incorporated, this shows as a 'B' on the screen.

ALARM SETTINGS

The default alarm settings are as follows:

ALARM 1 = 95% High Level Alarm
ALARM 2 = 05% Low Level Alarm

The display will flash when an alarm is activated. L= Low H = High

Alarm settings can be customised in the tank gauge setup menu. See separate calibration set-up sheet.

CALIBRATION

Please refer to the separate calibration set-up sheet supplied in the box.

A switch on the PCB needs to be moved into the "CAL" position and then the various settings screens can be adjusted.

- Tank Type
- Tank Height, Length, Width, all in meters.
- Hi and Low-level alarms are set as tank volume percentages.
The default is: Hi = 95%, Low = 05%.
- Specific gravity. Standard diesel is SG = 0.840.

ADVANCE SENSOR SETTINGS:

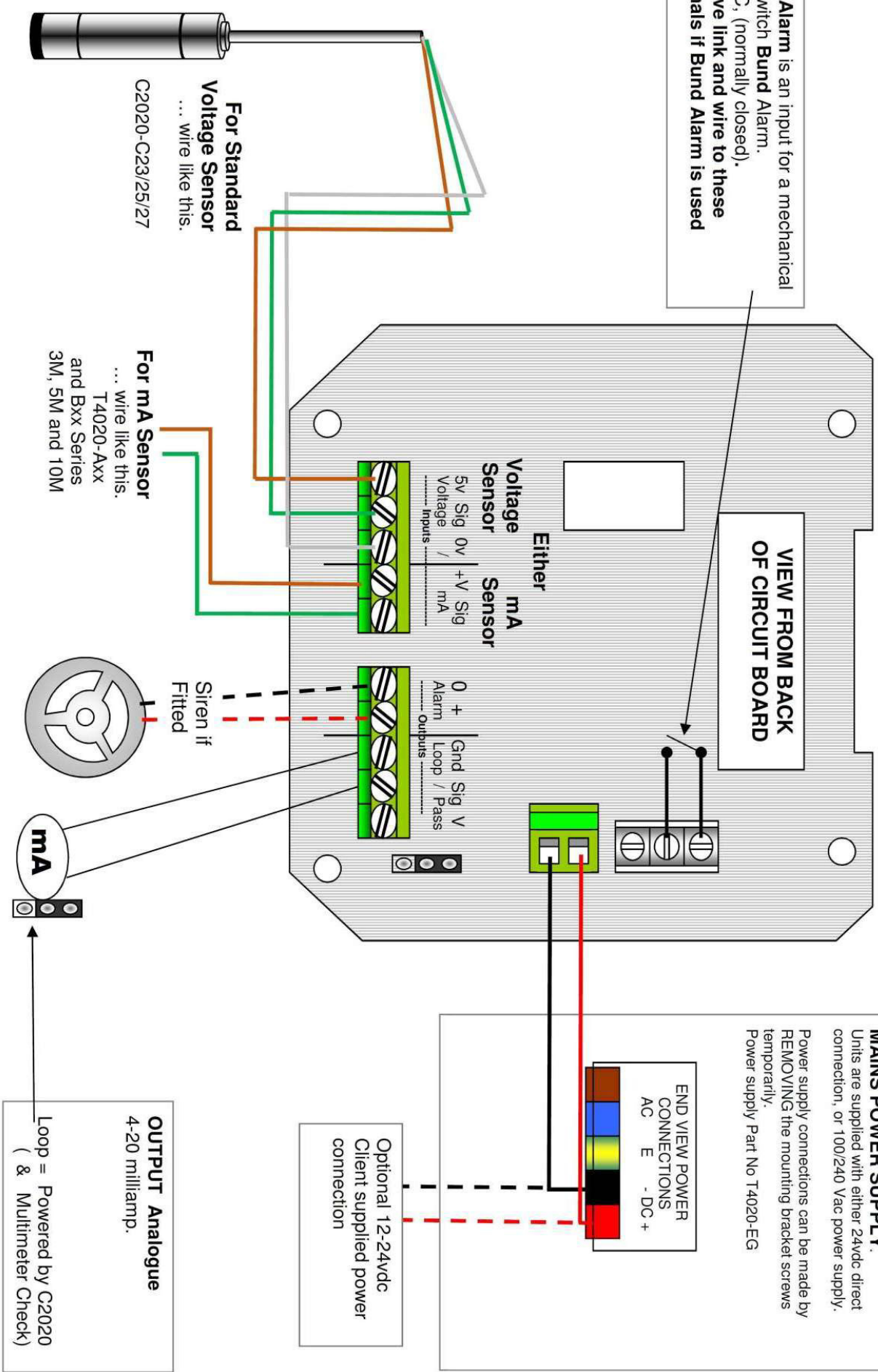
Please check that the Span is set for the corresponding probe supplied with the kit.

- **Sensor Type:** Voltage
- **Zero Value:** 0.500 V. (For voltage probes: C22/C23/C25/C27)
- **Max Value:** 4.500 V. (For voltage probes: C22/C23/C25/C27)
- **Offset:** 0.050 M. (For voltage probes: C22/C23/C25/C27)
This is the height that the probe sits from the bottom of the tank. (50mm)
- **Span:** This is the max height the probe can read.
 - **C22** Voltage probe = **2.550 M.**
 - **C23** voltage probe = **3.000 M.**
 - **C25** Voltage probe = **5.000 M.**
 - **C27** voltage probe = **10.000 M.**

PROBE WIRING DIAGRAM

Bund Alarm is an input for a mechanical float switch **Bund Alarm**. Set NC, (normally closed). Remove link and wire to these terminals if **Bund Alarm** is used

VIEW FROM BACK OF CIRCUIT BOARD



For Standard Voltage Sensor
... wire like this.
C2020-C23/25/27

For mA Sensor
... wire like this.
T4020-Axx and Bxx Series
3M, 5M and 10M

Either
Voltage Sensor
or
mA Sensor

5v Sig / +V Sig
0v Voltage / mA
Inputs

0 + Alarm Loop / Pass
Gnd Sig V
Outputs

END VIEW POWER CONNECTIONS
AC E - DC +

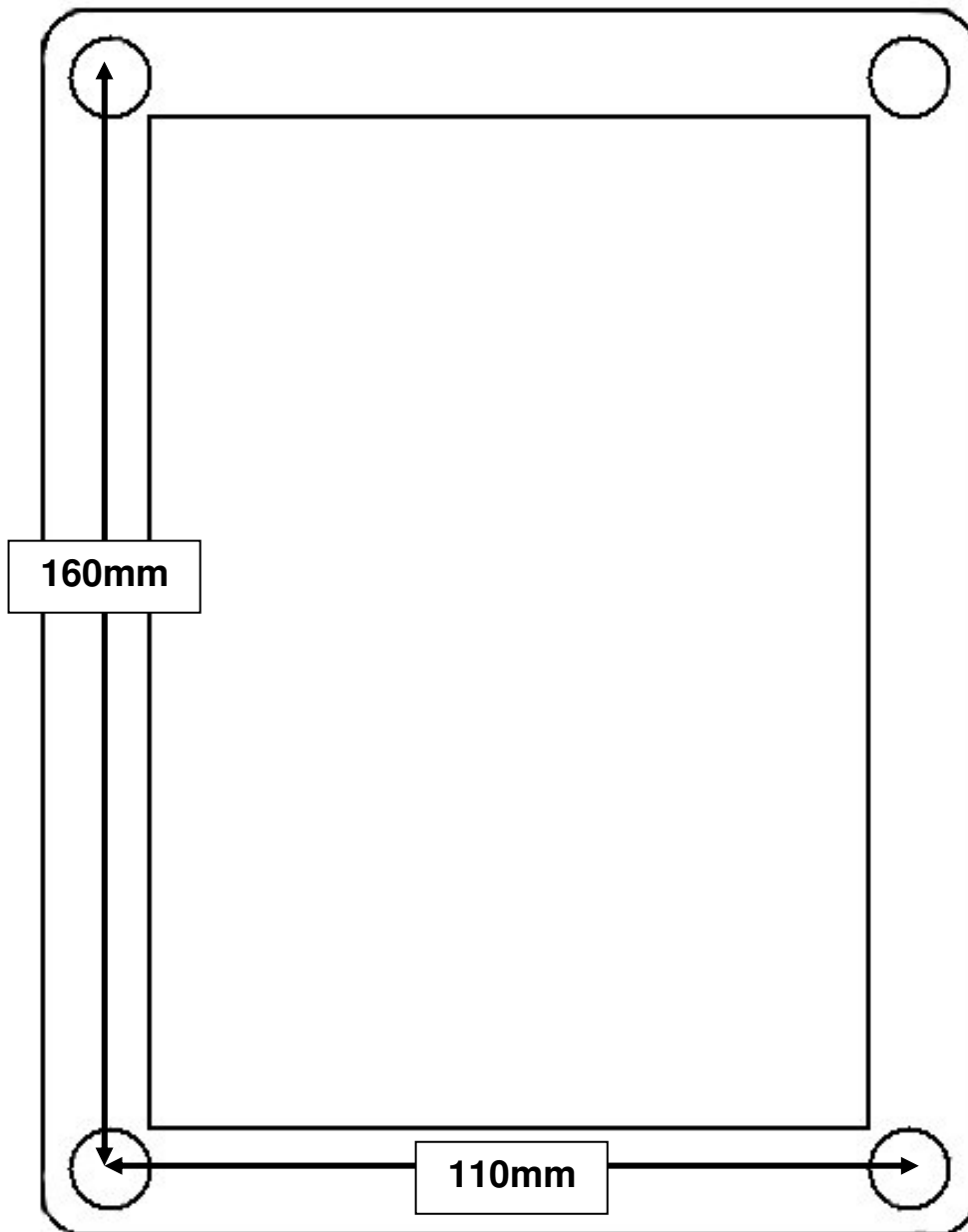
MAINS POWER SUPPLY.
Units are supplied with either 24vdc direct connection, or 100/240 Vac power supply. Power supply connections can be made by REMOVING the mounting bracket screws temporarily.
Power supply Part No T4020-EG

Optional 12-24vdc Client supplied power connection

OUTPUT Analogue
4-20 milliamp.
Loop = Powered by C2020 (& Multimeter Check)

DIMENSIONS

The display may be mounted on walls or panels by utilising the displays own mount holes and using these will retain the IP66 integrity. Screws are supplied with the gauge. If longer fixings are required, then Allen cap or cross head M4 bolts are ideal for this. The mounting dimensions are shown in the diagram below.



DECLARATION OF CONFORMITY



Company Name: **Hytek (GB) Ltd**

Address: **Delta House, Green Street. Elsenham,
Bishops Stortford, Hertfordshire, CM22 6DS, UK**

Date of Issue: **14th June 2016**

Equipment Details: **Electronic Tank Gauge Kit (Fuel Monitor)**

C2020-0-C23, C2020-A-C23, C2020-A-C25, C2020-A-C27

Applicable Directives:
& Standards

**2004/108/EC EMC Directive &
2014/30/EU EMC Directive** (effective date 20th April 2016)
EN 61000-6-3:2007 (+A1)
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards -
Emission standard for residential, commercial and light-industrial
environments

2014/35/EU Low Voltage Directive

2006/42/EC Machinery Directive

2012/19/EU Waste Electrical & Electronic Equipment Regulations

2011/65/EU Restriction of Hazardous Substances Directive (RoHS2)

EU095/3

Declaration Number:

On behalf of the above named company, I declare under our sole responsibility that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

A handwritten signature in black ink that reads 'Clive Wellings'.

Clive Wellings, Technical Manager

THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROTECTED BY COPYRIGHT © AND PROPERTY LAWS AND IS THE SOLE PROPERTY OF HYTEK (GB) LTD. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HYTEK (GB) LTD IS PROHIBITED.

S765/12