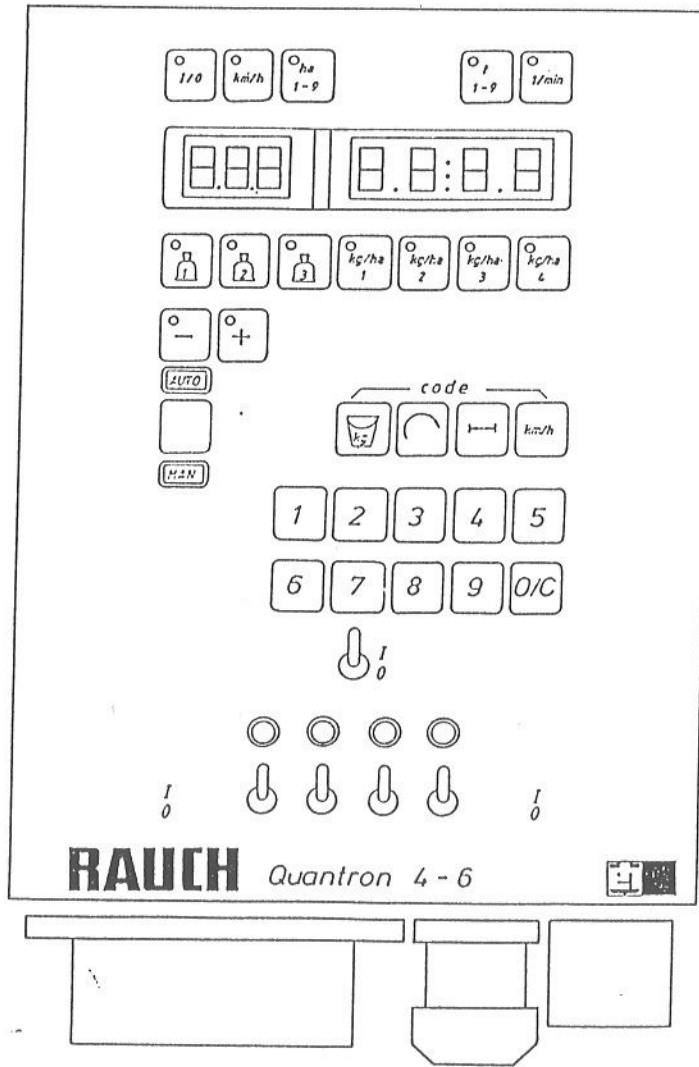


OPERATORS MANUAL

GB



QUANTRON 4-6

QUANTRON-A-0491-GB

QUANTRON 4-6 Fertiliser Spreader Computer

The electronic QUANTRON 4-6 unit controls and monitors the operation of the AERO pneumatic fertiliser spreader and ensures a constant, accurate fertiliser application regardless of forward speed, fertiliser type and quality.

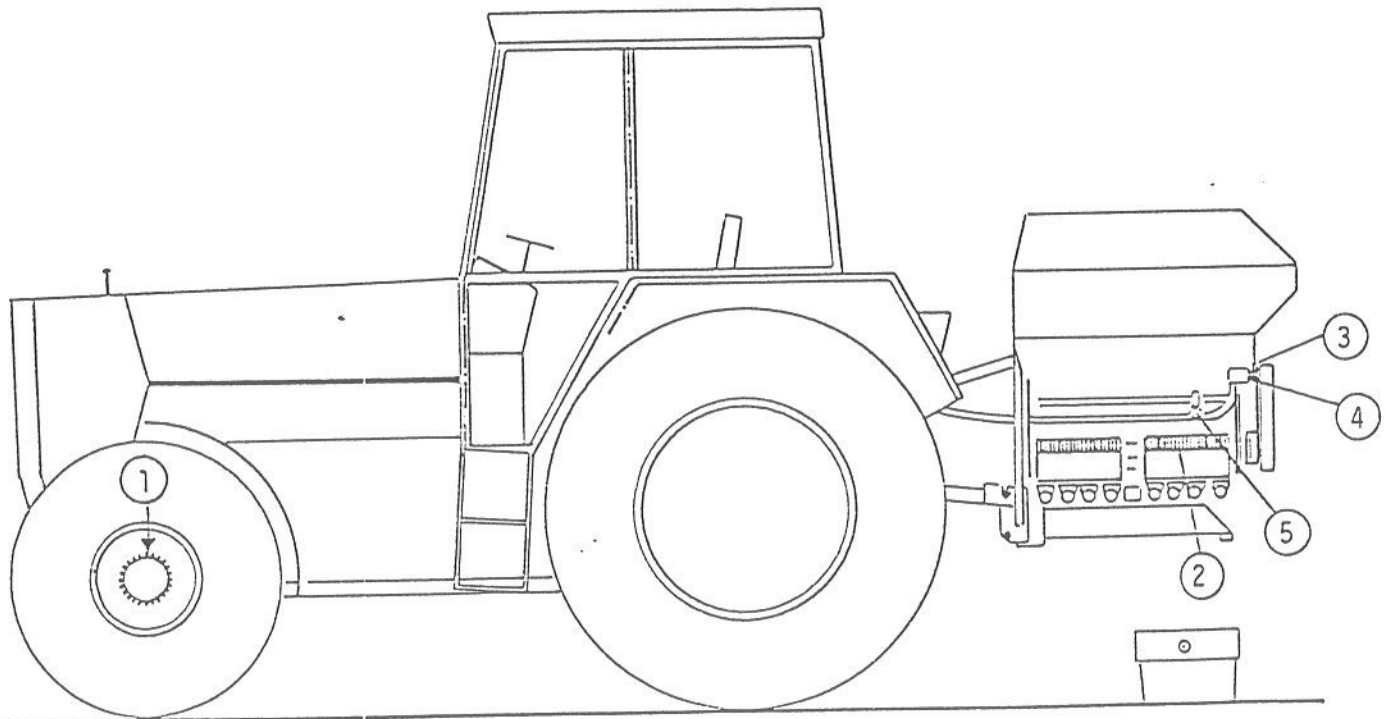
A sensor on the tractor front wheel (two wheel drive) or the drive shaft (four wheel drive) monitors forward speed and the QUANTRON 4-6 varies the speed of the fertiliser feed rollers accordingly to give a constant application rate.

Calibration of the spreader for any type of fertiliser is a simple process and the calibration results are stored in the QUANTRON 4-6 memory. Once calibrated, the operator can enter the required application rate (in kg/ha) directly onto the keyboard, without using calibration charts. The unit has battery back-up to protect the calibration memory when disconnected from the tractor power supply.

The QUANTRON 4-6 can also be used as an hectare-meter for any field operation. For mounted implements, a sensor can be installed on the 3-point-linkage which detects the start and finish of bouts.

QUANTRON 4-6 Fertiliser Spreader Computer - Sensors and Controls

- KEY:
1. Forward speed sensor
 2. Feed rollers
 3. Feed rate sensor
 4. Feed roller hydraulic motor
 5. Electro/hydraulic flow control valve



1/0 km/h ha 1-9 1 1-9 1/min

1 2 3 kg/ha 1 kg/ha 2 kg/ha 3 kg/ha 4

- +

AUTO



MAN

code

kg ↻ ↔ km/h

1 2 3 4 5

6 7 8 9 0/C

Main switch for 1/4 - 1/6 width shut off control



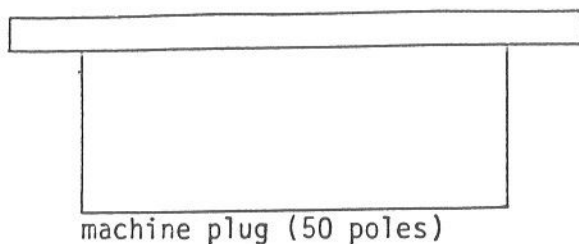
Switches for section widths shut-off control

I
0

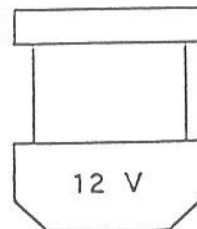
I
0

RAUCH

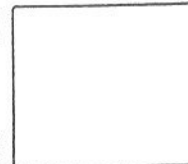
Quantron 4-6



machine plug (50 poles)



12 V



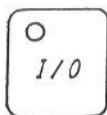
Plug (7 poles) for forward speed sensor



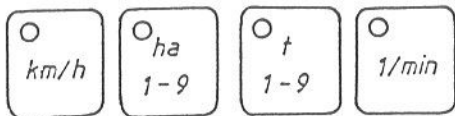
fertiliser spreader
3-point-linkage sensor

1. FUNCTION OF KEYS

On/Off key:



Switches the unit on/off (Alternatively the unit can be connected to terminal 15 on the tractor main switch so that the QUANTRON 4-6 is turned on automatically when the tractor is started.



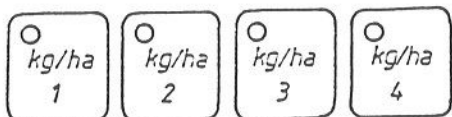
Information Keys (green):

km/h key = Forward Speed
 ha 1-9 = Field memory (Area of 10 fields)
 t 1-9 = Field memory (Quantity spread on 10 fields)
 l/min = Feed roller speed / Flow rate



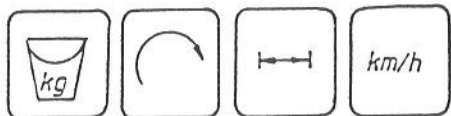
Fertiliser Selector Keys:

Selects the type of fertiliser to be spread. The calibration memory can store the results of 3 calibration tests for 3 different fertilisers. The digital read-out indicates which calibration the unit is using.



Spreading Rate Selectors (red):

The most regularly used application rates can be preset. These buttons enable change of spread rate "on the move".



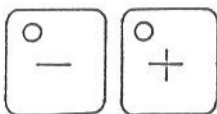
Calibration Input Keys (blue):

Used to input the necessary calibration data (Full instructions in Section 3.3)



Shift Key:

Shifts computer between AUTOMATIC and MANUAL mode.



-/+ Key:

In Manual Mode these keys adjust the flow-control valve valve to increase (+) /decrease (-) the application rate.

In Auto Mode, press these keys to adjust the application rate either up or down by 10 % of the original setting.

2. INSTALLATION INSTRUCTIONS



IMPORTANT: Before welding or working on the electrical system of the tractor or spreader, be shure to disconnect all plugs on the QUANTRON 4-6.

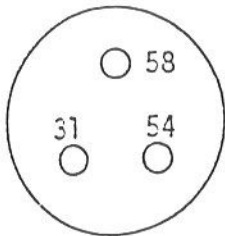
2.1 COMPUTER UNIT & POWER SUPPLY

The Quantron 4-6 should be installed in the tractor cab in a position where it is easily visible and accessible to the driver, without obstructing the normal, safe operation of the tractor. If necessary make up a suitable support.

It is illegal to drill or weld to the main cab structure.

A basic mounting plate is supplied as standard equipment.

For the power supply, the 3 pole socket (supplied) should be installed neatly in a convenient clean/dry position in the tractor cab. The socket should be wired as per the following diagram, using insulated cable of at least 2.5 mm² diameter (preferably colour coded to aid future fault tracing).



58 - Connect to Terminal 15 on tractor main switch. (Live when tractor switch ON)

54 - Battery +ve terminal

31 - Battery -ve terminal (earth)



IMPORTANT:

Wire in the supplied 25 Amp fuse on the live wire close to the tractor battery to protect the installation.

When the QUANTRON 4-6 is connected to Terminal 15 on the tractor main switch (ignition) the unit is automatically switched on with the "ignition" key. However, this is optional and full function of the unit can be achieved using connections 54 (+ve) and 31 (-ve) only. When this system is used, the QUANTRON 4-6 must be switched on/off manually.

It is important to keep the QUANTRON 4-6 connected to the tractor battery so that the rechargeable internal battery remains fully charged. If it becomes discharged through prolonged disconnection from the tractor, any calibration data you have previously stored in the memory may be lost.



IMPORTANT:

If you do disconnect the QUANTRON 4-6 unit, insulate the electricity supply cables so that they cannot cause a short circuit.

2.2 FORWARD SPEED - IMPULSE SENSOR

Some modern tractors have electronic instrument panels and are already equipped with an information socket, from which the QUANTRON 4-6 can obtain a read-out of forward speed directly. In that case, refer to your tractor manual or your local dealer for socket details and connect the QUANTRON 4-6 impulse sensor input cable to the relevant terminal(s).

In tractors without information sockets, the correct position for the impulse sensor depends on whether the tractor is TWO WHEEL DRIVE or FOUR WHEEL DRIVE.

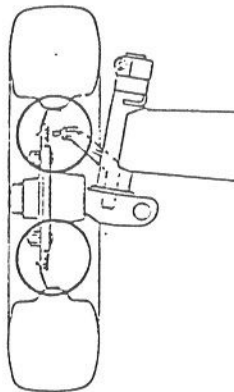
2.2.1 INSTALLATION ON A TWO WHEEL DRIVE TRACTOR

The Impulse Sensor consists of an electrical sensor unit and a circular plate. The plate should be bolted to the inside of a front wheel (non-powered) as in Figure 1. Two punched plates are available (350 mm and 500 mm diameter) depending on the diameter of the tractor wheel hub/rim.

It is important to centre and align the punched plate so that it runs true. If necessary, washers or shims can be used.

The sensor must be installed neatly, behind the axle/king-pin assembly, where it can gain protection from damage (See Figure 1). Make sure that the sensor and cable are installed so that they are not damaged when the steering is turned full-lock either way.

Adjust the clearance between sensor and plate to between 3-5 mm. Slowly rotate the wheel to check that the clearance remains within this range.



2.2.2 INSTALLATION ON A FOUR WHEEL DRIVE TRACTOR

The sensor should be installed so that it reads impulses from angled metal strips (supplied) bolted to suitable flange bolts on the front wheel drive-shaft. If the number of flange bolts can be divided by 3, use 3 or 6 angled metal strips. If the number of bolts can be divided by 4, use 4 or 8 strips. The sensor should be installed so that it is between 3-5 mm from faces of the revolving metal strips in a well protected position. If necessary, the drive shaft guard must be modified to take the sensor.

IMPORTANT: Remember to reinstall guards, removed for this operation.

The QUANTRON 4-6 can read forward speed from a range of 100 to 50000 impulses per 100 metres distance.

2.2.3 INSTALLATION OF A RADAR SENSOR

If a separate radar sensor is to be used for forward speed measurement it should be installed as per the manufacturer's instructions, preferably by a specialist workshop.

2.2.4 INSTALLATION OF THE 3-POINT-LINKAGE SENSOR

To use the QUANTRON 4-6 as an AREA METER with ground engaging implements (ploughs, harrows etc.), a sensor unit is installed on the 3-point-linkage which switches off the area meter when the implement is lifted at the headland and switches it on again when the implement is lowered back into work. The sensor is not necessary for operating the AERO Fertiliser Spreader.

The sensor and contacts should be installed in a secure, neat and well protected manner.

3. CALIBRATION CODES

The following section explains how to calibrate the QUANTRON 4-6 for forward speed, working width and fertiliser flow-rates.

The calibration of forward speed isn't often changed - only when different tyres are fitted or in extremely slippery conditions. Working width must be recalibrated when different bout widths are used.

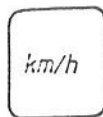


For accuracy - always recalibrate the spread-rates when different fertilisers are used, or if the fertiliser is damp or otherwise different from that originally calibrated.

3.1 FORWARD SPEED CODE CALIBRATION

Measure out 100 metres on a clear, level piece of ground, preferably with ground conditions (eg. wheel sinkage/slippage) similar to typical working conditions.

Park the tractor with the engine running at the start of the measured distance and, if necessary, turn on the QUANTRON 4-6 unit with its ON/OFF switch.

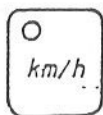


Press km/h code key (blue): The previous impulse value is displayed, flashing alternatively with --100-- (symbol for 100 metres).



Press the key again to zero the display.

Within 6 seconds, start driving over the measured 100 m. (If more than 6 seconds elapses the QUANTRON 4-6 reverts to its old setting).



When the 100 m mark is reached, stop and enter the new read-out by pressing the blue km/h code key, followed by the 5 key. The new setting will now flash, alternating with --100--.

The QUANTRON 4-6 accepts code values between 100 and 5000 impulses per 100 m.

When the GREEN information key km/h is pressed, the left hand digital display now indicates forward speed.

3.2 WORKING-WIDTH CALIBRATION CODE

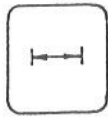

The QUANTRON 4-6 is a very adaptable instrument which can be set to match a wide range of working conditions, including different implement working widths, and booms with differing section-widths.





Depending on the implement in use, the unit can be calibrated both for the whole working width of the machine and for the width of each section to be controlled.

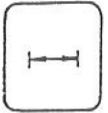

3.2.1 SETTING THE TOTAL WORKING WIDTH

First, check that all control cables from the unit to the spreader are connected.

Set the SECTION FEED (flick) SWITCHES and the MAIN FEED (flick) SWITCH UP to the ON position (I). All section tell-tale diodes will light.

 Press the BLUE width calibration key: The digital read-out will now flash, with the presently stored value for the working width in metres (to 2 decimal places (eg. 24.00), alternating with the working width symbol 

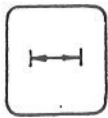
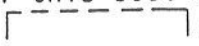
    If necessary, enter a new working width - to 2 decimal places - eg. 18.00 m.




  To store the new working-width setting in memory, press these two buttons in turn.



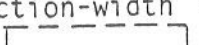
The QUANTRON 4-6 accepts total working width values between 4.00 metres and 40.00 metres.

3.2.2 SETTING EACH SECTION WIDTH

Set the main feed switch ON plus ONE section feed switch (say, the outer - left section) to the ON position (I). The tell-tale diode above the section switch will light.

 Press the blue width-setting key: The digital read-out will now flash, with the presently stored value for the width of this section alternating with the working width symbol .

   Enter the value for the new section width to 2 decimal places (eg 3.75 m).

  To store the new section-width setting in memory, press these two buttons in turn. As confirmation, the digital read-out should flash the new section-width alternating with the working width symbol .

Turn that section feed switch off and repeat the procedure with the other sections in turn, feeding in and storing the correct width setting for each section.

The QUANTRON 4-6 will accept section-width values within the range 0-10 metres.

3.3 CALIBRATION FOR FERTILISER

The calibration of the QUANTRON 4-6 for fertiliser depends on the stored values for working width. If the working width values are changed, an error message appears on the fertiliser read-out (Err 016) which means that the unit must be recalibrated for fertiliser.

3.3.1 CALIBRATION PROCEDURE

Switch the QUANTRON 4-6 to manual. Set Main Feed Switch to OFF (0) and one section feed switch (say, the outer-left) to ON (I).



If the spreader is equipped with blank feed-rollers for reducing working-width, the calibration must be carried out on a section which is not equipped with blank rollers.

Place buckets under the relevant outlets for that section and turn on the hydraulic system. Briefly turn on the Main Feed Switch to allow the feed rollers to charge the supply line and allow some excess fertiliser to drop into the buckets. Turn main switch OFF. Empty the buckets and replace them under the outlets.



These keys control the speed of the feed rollers, (+) speeds them up, (-) slows them down.



Press the green (1/min) key and set a speed for the feed rollers which is around 10 % of the required application rate.

(eg. If the average rate used is 400 kg/ha, set the feed rollers rotating at 10 % of the 400 = 40).

Calibrating the feed rollers for a mid-range application rate evens out possible calibration errors on both extremely high and extremely low flow rates.



Decide which fertiliser selection key you want to store this particular calibration on, and press the key. Data for three different fertilisers can be stored at any time.



Now press this key and the digital read-out shows a stored impulse figure alternating with |_| |_| |_| PULS.

Switch on the main switch again and allow the buckets to fill with fertiliser. (Make sure none is spilt). The QUANTRON 4-6 will now count the impulses from the feed rollers.

When the buckets are almost full, switch off the main switch. The read-out will now display the impulse count.

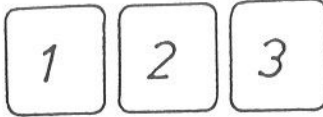


Press these keys, in turn, to store the impulse values.

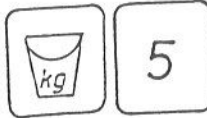
Weigh the fertiliser collected in the buckets. N.B. Remember to deduct the weight of the buckets!!!



Press this key and the read-out will flash an old kg value alternating with |_| |_| |_| |_| |_|.



Enter the weight of fertiliser collected, in kilograms to ONE decimal place: (eg 12.3 kgs.)



Press these BLUE keys in turn to store the new value. As confirmation the read-out will flash alternating with the new value.

When calibrating for fertiliser, the QUANTRON 4-6 will accept feed roller impulse values between 500 and 50000 and fertiliser weights between 5.0 kg and 100.0 kg.

The calibration can be repeated with two other often-used fertilisers and the results stored on the other two fertiliser selection keys. From now on it is only necessary to recalibrate when a fertiliser other than those already memorised is required.



We recommend that the unit is recalibrated if the fertiliser to be spread is damp, lumpy or markedly different from that used for the original calibration.

3.4 PROGRAMMING STANDARD APPLICATION RATES

Put QUANTRON into AUTO MODE.



Press, and the application rate setting (kg/ha) presently stored on this key will flash alternatively with n2: HA.



Press these in turn to feed in a new application rate. eg. 450 kg/ha.



Press this again to confirm that your new rate is stored in the memory. The read-out will flash the new rate alternating with n2: HA.

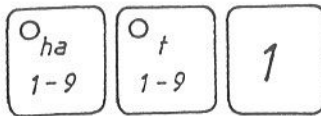
This procedure can be repeated with the 3 other application rate selector keys to store the 4 rates which are most often used on your farm.

An LED tell-tale identifies the application rate selector key in use at any time. Application rates can be programmed only in AUTO mode.

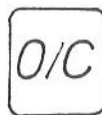
4. PRACTICAL USE

After the calibration procedures the area and tonnage counters can be set for the job-in-hand. The QUANTRON 4-6 can store information on 10 different field areas and the fertiliser quantity spread on each.

4.1 HECTARE AND TONNAGE METERS



Press these keys one after the other: The area and tonnage meters are now selected for counting Field 1. The left-hand digital read-out shows the present area value (Hectares) stored in the Field 1 memory, flashing alternately with HA-1. The right-hand read-out shows the tonnage value stored in the memory alternating with To-1.



To zero the area and tonnage memories, press this key until the read-outs show 0.00 alternating with HA-1 and To-1. The memories are now ready to begin counting Field 1.

If necessary, repeat the above procedure to clear all field memories from 0-9. When working on several different fields, the area and tonnage values for each field can be recorded one after the other.

The hectare and tonnage meters gather information automatically from two different sources.

The hectare meter calculates the area covered by the working width (calibration value) and the forward speed; when a boom section is switched off the area it covers is not counted.

The tonnage meter calculates the quantity of fertiliser spread from the feed rate sensor signal. Here again, turned-off sections are taken into account.

4.2 SPREADING FERTILISER USING AUTOMATIC CONTROL

With the hopper full of fertiliser, and the tractor and spreader at the headland in front of the first bout to be spread:

Make sure the QUANTRON 4-6 is in MANUAL mode and the main feed switch is OFF; turn all section feed switches ON.

Turn hydraulic supply ON.

Engage the P.T.O. and P.T.O. speed up to 540 r.p.m.

On the QUANTRON 4-6 press the Fertiliser Selector Key relating to the calibration of the fertiliser you are about to spread.

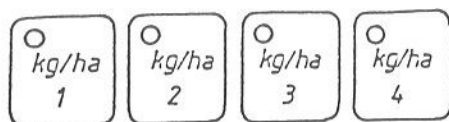
Switch the unit to AUTO mode.

Move forward and when the spreader booms are directly over the start of your bout, switch Main Feed Switch ON.

In AUTO-MODE the micro-processor in the QUANTRON 4-6 adjusts the speed of the feed to deliver the required application rate relative to the forward speed. The automatic adjustments can be seen as the "+" and "-" LEDs light up alternatively. When forward speed increases, or the application rate is increased, the "+" LED will light continuously - until the feed units have speeded up enough - when both LEDs will resume their flashing.

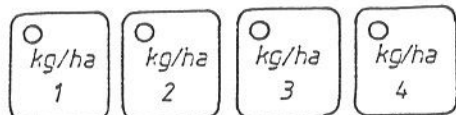
At the end of each bout, switch the main feed switch OFF to stop the flow of fertiliser.

Alternatively, if the start or end of a bout is tapered, the relevant section feed switches can be used to control boom sections individually, to avoid double dosing.



During spreading it is possible to change to any of the 4 calibrated rates by pushing the relevant key.

Smaller adjustments to the application rate can be made "on the move" by pressing the "+" or the "-" keys. Each push of the "+" key will increase the indicated rate by 10 %. Similarly, pushing the "-" key will reduce the rate by 10 %. To return to the original setting, either re-adjust with the "+" or "-" keys or push the pre-set rate key again.



During spreading, any or all the application rate settings can be changed by entering and storing new values.

The flow of fertiliser is turned on and off at the headlands using the MAIN FEED SWITCH; when moving between fields or back to the farm the hydraulic drive should be turned off. In either case, the QUANTRON 4-6 will recognise that the feed rollers are stationary and will switch off the regulation system.

4.3 SPREADING FERTILISER IN MANUAL MODE

In manual mode, the speed of the feed rollers (and therefore the application rate) is under direct manual control. Press a kg/ha key and the right hand digital read-out shows the effective application rate. The hectare and tonnage meters are not affected and both keep counting.

4.4 FERTILISER SELECTION KEYS

When calibrating for a fertiliser, select one of the three memories to store the calibration codes.



IMPORTANT!

Working with wrong calibration values can result in the application rate being too high or too low.

To change to another fertiliser key the following conditions must be respected.

1. The tractor is stationary
2. The QUANTRON 4-6 is in MANUAL MODE



When changing the fertiliser selector keys, check the new code values using these keys.

4.5 PRACTICAL TIPS - BEFORE AND DURING SPREADING

Always, after switching on the QUANTRON 4-6, press the blue calibration keys to check that the calibrations are still stored in the memory.

Avoid abrupt changes of speed - the control system is damped, so that it cannot react instantaneously to sensor information. For instance; - in an emergency stop there will be a few seconds delay before the hydraulic flow control valve, and the fertiliser closes completely and the fertiliser flow stops. In such a situation, turn off the main feed switch, or the hydraulic system at the tractor spool-valve.

When spreading, if the tell-tale on either the "+" or "-" key is constantly illuminated, ie. if they are not lighting alternatively, this means that the unit cannot achieve the programmed setting because the feed-roller speed required by the computer is faster, or slower, than can be achieved in the present situation. This could be because:

- a) You have programmed a very high application rate and you are driving too fast. The feed rollers are at maximum speed with the hydraulic flow control valve wide open. Check that you have set the right application rate - (not, say, 2500 kg/ha instead of 250 kg/ha for instance!). If you require a very high spreading rate, keep forward speed below the point where the "+" key lights continuously. If this speed seems very low, it may be that your tractor is not supplying a high enough oil flow rate to drive the feed rollers at maximum speed. You can check this by pressing the green "l/min" key (which actually registers feed-roller speed). When the "+" LED is constantly on, the read-out, when the "l/min" is pressed, should be 65 rpm. If it is lower, the tractor hydraulic system is probably not supplying enough oil and should be tested with a hydraulic flow meter. To drive the feed rollers at maximum speed requires an oil flow of 30 litres/minute. If your tractor supplies less (say 25 l/min) then please contact RAUCH.
- b) If you regularly need to spread very low quantities (ie. with the read-out, from the "l/min" key, below 10) at low forward speeds, we can supply micro-granular feed rollers (which turn 5 times faster to get an equivalent flow rate). However, it is still difficult to keep accuracy of application at these lowest rates. If you only occasionally need very low application rates at very low speeds then you can switch the QUANTRON 4-6 MANUAL mode and set a specific low feed-roller speed (say 4 on the "l/min" read-out. The control system will then keep it constant but you must keep your forward speed as constant as possible. In manual mode, the tonnage meter, hectare meter, main feed switch and quarter/sixth width feed switches all work as normal.

4.6 USING THE 3-POINT-LINKAGE SENSOR

When the 3-point-linkage sensor is installed, the QUANTRON 4-6 can be used as an area meter for 3-point-linkage mounted, ground-engaging implements. Raising the linkage then switches off the hectare-meter, and lowering the linkage switches it on again. The main feed switch and all section feed switches must be switched ON (position I). The working width must be set to a value greater than 0.

4.7 START - OF - DAY ADJUSTMENT

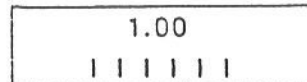
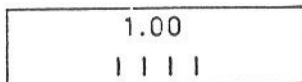
When you stop the fertiliser spreader and switch off the QUANTRON 4-6 at the end of a job, the setting of the feed-roller speed control remains "frozen" and it will continue at that rate when it is started up again. If, for instance, the last job yesterday involved a high application rate, and today you want a low rate - you will spread too much fertiliser initially, while the control system adjusts itself.

To avoid this we recommend that, before you start a new job, you switch to MANUAL mode and, with all feed switches OFF (0), you lower the feed-roller speed with the "-" key, (monitoring it on the right digital read-out by pressing the "l/min" key) until a suitable feed-roller speed is reached. After some days usage, you will know from experience the approximate feed roller speed for a given application rate, forward speed and working width. In the mean-time, the calibration chart will give you approximate value.

To play safe, we recommend that you select a feed roller speed on the low side so that the unit will adjust it upwards, rather than a rate which is too high initially, and which will result in over-dosing on the headland.

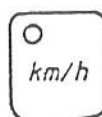
5. SWITCH-ON ROUTINE: FUNCTION CHECKS

When the Quantron 4-6 is switched on, the left-hand digital read-out shows whether the AERO spreader has quarter or sixth width section feed controls fitted.

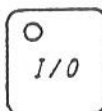


5.1 CHECKING THE FORWARD SPEED SENSOR

Switch off QUANTRON 4-6.



Press GREEN speed information key, hold it down and switch the unit on.



The speed impulse symbol |---100-| will flash alternately with 0.

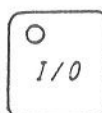
If you drive forward now, the QUANTRON 4-6 should begin to count speed impulses. If not, check that the sensor is clean and its clearance from the plate is 3-5 mm.

5.2 CHECKING FEED-RATE SENSOR

Switch off QUANTRON 4-6.



Press GREEN feed-rate information key, hold it down and switch unit ON.

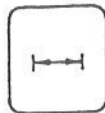


The feed rate impulse symbol HYDR will flash alternately with 0.

If you turn on the hydraulic system now, the QUANTRON 4-6 should begin to count feed-rate impulses. If not, check the adjustment of the sensor. (Clearance should be within the range 0.2 mm to 1.7 mm. Ideal clearance = 0.9 mm).

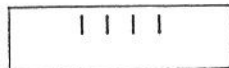
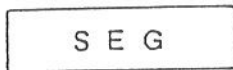
5.3 CHECKING THE QUARTER/SIXTH WIDTH SECTION FEED CONTROLS

Switch off QUANTRON 4-6.

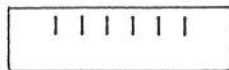


Press the width calibration key, hold it down and switch unit ON.

When all section feed switches are off, the digital read-out should show:

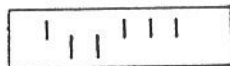
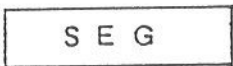


Quarter width section feed-control:
AERO is connected.



Sixth width section feed-control:
AERO GT is connected.

When sections are switched on, the bars should jump down, eg:



Sixth width section feed control:
Sections 2 and 3 are on.

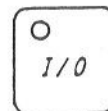
If there is no reaction from the read-out when sections are switched on, the connection to the solenoid should be checked.

5.4 CHECKING THE QUANTRON 4-6 PLUG CONNECTIONS

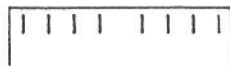
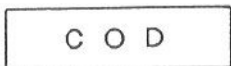
Switch off QUANTRON 4-6.



Press this key and switch unit on.



If the digital read-out shows:



The control cable to the AERO spreader is not connected or connection is faulty.



The AERO cable is connected through the I/O On/Off Switch.

C O D

| | | | | | | |

The AERO cable is connected directly, by passing the I/O On/Off Switch.

C O D

| | | | | | | |

3-point-linkage sensor is connected.

6. ERROR MESSAGES

To increase working safety and to help in fault diagnosis the QUANTRON 4-6 is equipped with an automatic fault-indication system.

The unit indicates two types of faults:

System faults: Err - Programming faults: EEE

FAULT CODES

System faults:

Err 001 All calibrated values have been lost during work. Check the sensors and recalibrate.

Err 002 One or all of the operating values (kg/ha, accumulated tons, accumulated ha) have been lost during work. Continue working only after reprogramming values.

Err 003 Err 001 + Err 002

Err 004 Occurs when switching on, if the values are outside the working ranges. Usually occurs when the unit memory has been lost through discharge of the internal battery. Reprogramme and recalibrate.

Err 005 Err 001 + Err 004

Err 006 Err 002 + Err 004

Err 007 Err 001 + Err 002 + Err 003

The error messages 0012 - Err 007 can only be cleared by pressing this key and holding it down for a prolonged time.

Err 8-x Fault on section feed x. (eg. Err 8-2 = Fault on section 2). Sections are numbered from the left-outer towards the right (when standing behind the machine facing forwards).
Check the cables, fuses, solenoid and plug. (Possibly finish spreading on a reduced bout width.)

Err 016 The calibration stored in the memory relates to a different working width than that being used, and is therefore wrong. For instance, it appears if you change working width AFTER you have done the calibration. Recalibrate with present width, or confirm the settings by re-entering them.

Err Volt Supply voltage is below 11.0 volts when boom sections are switched OFF... Or below 8.5 volts when they are switched ON.

8. FAULTS

Faulty fertiliser application commonly occurs in the following circumstances:

1. If the fertiliser characteristics change, eg, by changes in the weather, or another fertiliser being used.
We therefore recommend that you carry a bucket and scale with you to carry out a quick field-calibration if in any doubt.
2. If the ground conditions (wheel-slip) become significantly different to the conditions under which the forward speed was calibrated. Either calibrate again for forward speed under the new conditions, or estimate the approximate change in wheel slip. eg. For 5 % more wheel-slip, increase the impulse calibration by 5 %. For lower wheel slips, reduce accordingly.
In many cases you will know the area of the field you are working in, eg 3.5 ha. After you have finished the field, and the hectare-meter shows 3.5 ha then you have estimated the wheel slip perfectly. If the read-out shows 3.4 (or 3.6) you have guessed too low (or too high) by 3 % and you should change the impulse calibration accordingly. From experience you will get it right.

IMPORTANT:



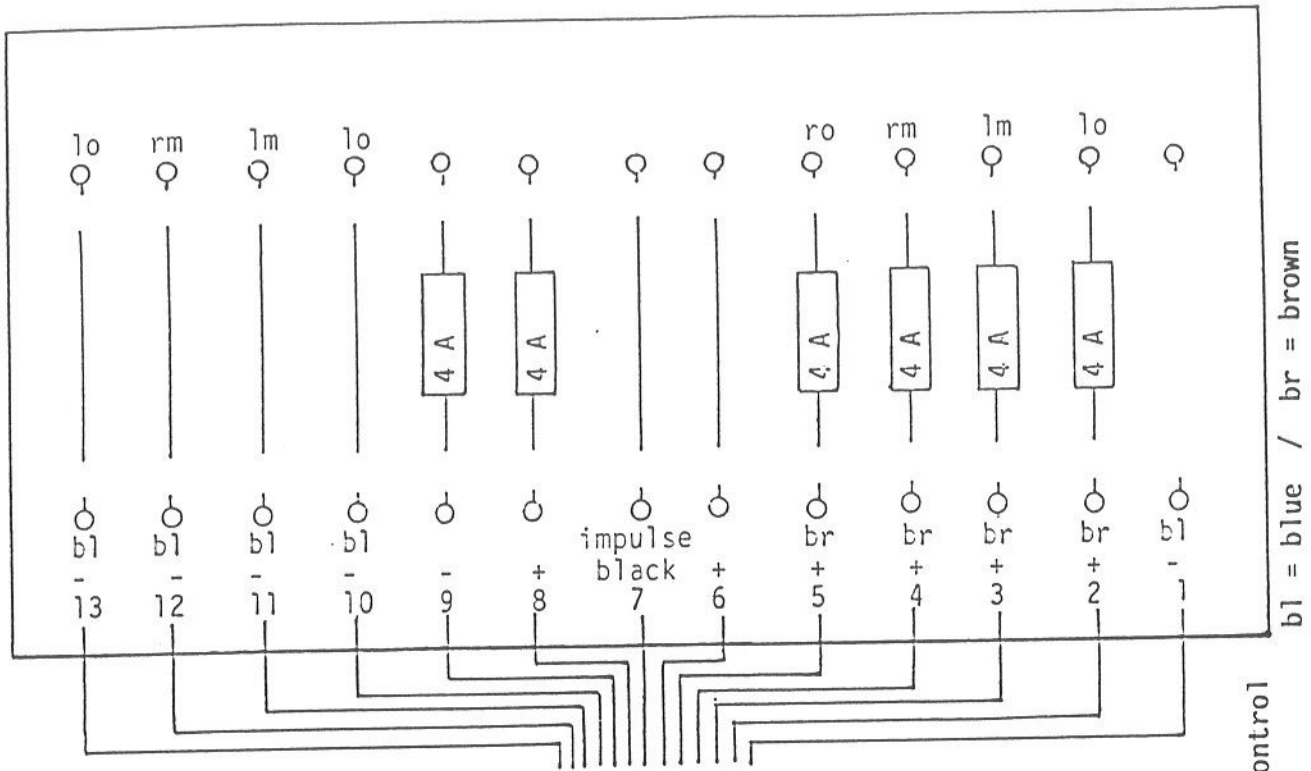
If, during work, there is a brief break in the power supply, or electrical circuit or plugs, the QUANTRON may display the starting read-out, but it may keep on working normally. If this happens, check the electrical system, cables and tractor battery, for dirty terminals and contacts, cable-breaks etc. If the fault keeps occurring, inform RAUCH.

IMPORTANT:



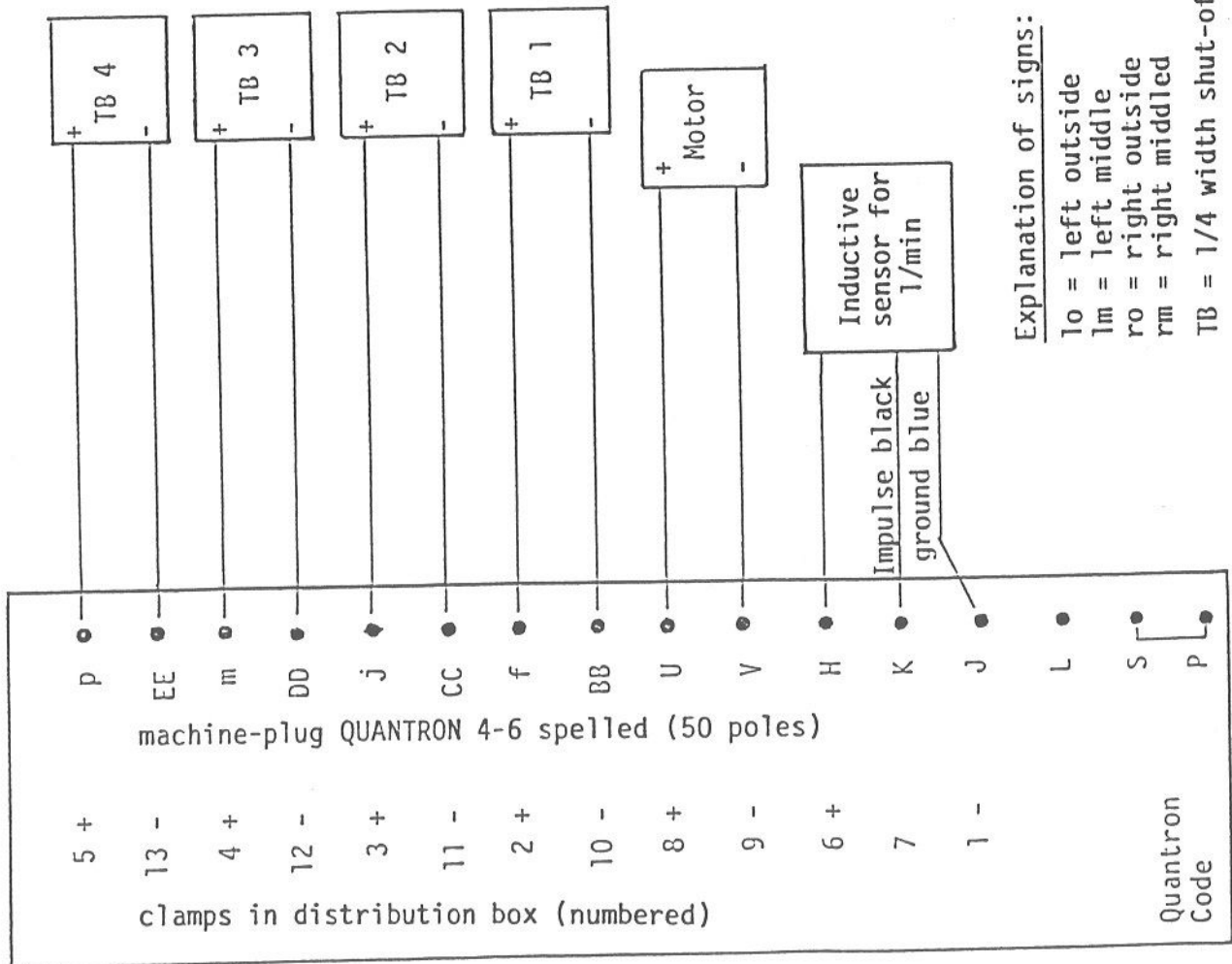
When transporting the machine we advise you to switch off the feed roller hydraulic motor, as well as the boom section controls, to avoid un-necessary wear on the clutches.

Diagramme for QUANTRON 4-6 - 50 PINS 1/4 Width shut-off control



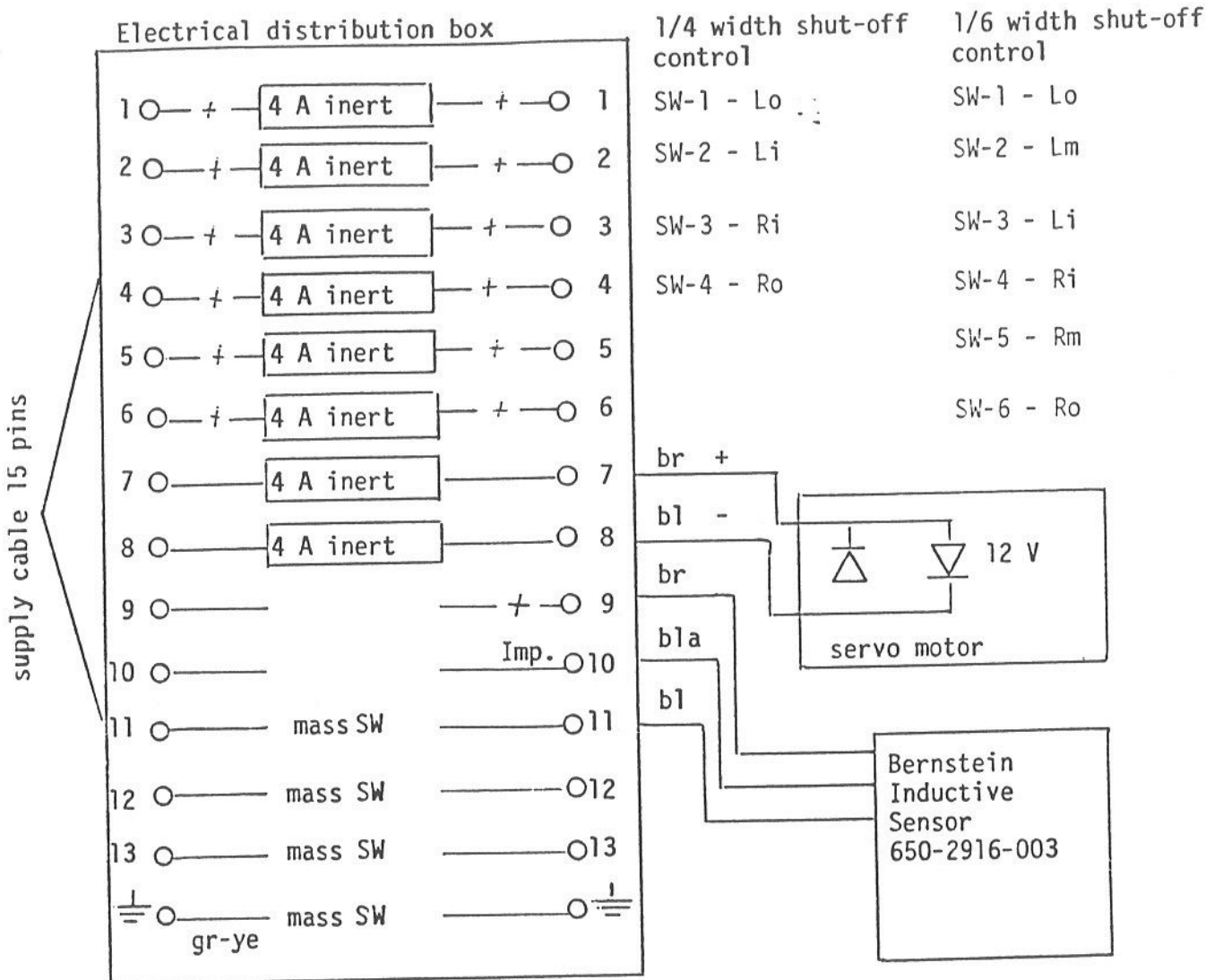
bl = blue / br = brown

Diagramme for distribution box



plus cable for shut-off control: small letters

WIRING DIAGRAMME FOR QUANTRON 4-6 - 16 PINS



At the 1/4 width shut-off control cable 5 and 6 are not connected, fuse holder 5 + 6 are not there

The a.m. wiring diagramme is valid from machine-no. 12849 on.

Abbreviations:

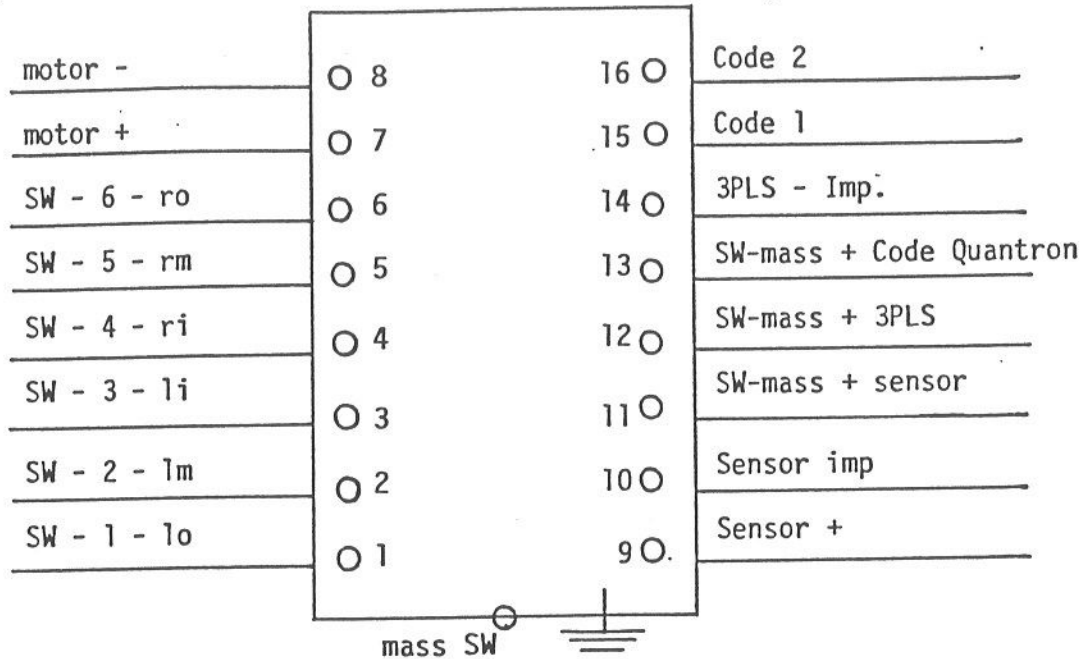
SW = Section width
 Lo/Lm/Li = l.h. outside/middle/inner side
 Ro/Rm/Ri = r.h. outside/middle/inner side
 br = brown
 b1 = blue
 bla = black
 gr-ye = green-yellow

DIAGRAMME FOR QUANTRON 4-6, 16 PIN PLUG

Attention! Machine wire No. 14 is not connected to 16 pin plug

Attention! Green-yellow wire (machine wire) is connected to the box mass of 16 pin plug

Abbreviations: SW: section width / ro/rm/ri: r.h. outside/middle/inner side
 lo/lm/li: l.h. outside/middle/inner side
 3 PLS: 3-point-linkage sensor



Quantron 6 section widths	
SW 1 - SW 2 - SW 3 left	SW 4 - SW 5 - SW 6 right

Quantron 4 section widths	
SW 1 - SW 2 left	SW 3 - SW 4 right

	Code 1	Code 2
tractor	open	open
tractor + 3PLS	open	bridge
Quantron 4-6	bridge	open

Bridge means wiring to mass

Bridge is situated in the 16 pin plug.

Attention: Bridge - Code Quantron 4-6 to Code 1 is clamped to plug 16 poles.