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R-TECH TIG162DC TFT DIGITAL DC TIG WELDER

OPERATION INSTRUCTIONS





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Thank you for selecting the R-Tech TIG162DC-TFT Digital Inverter DCTig Welder.

The TIG162DC-TFT Digital has many benefits over traditional TIG welders, including EASY SETUP, 20 memory stores, pulse welding, slope up/down, remote foot pedal, option and an industrial 60% duty cycle.

We want you to take as much pride in operating our TIG162DC-TFT Digital as much pride as we have in making this product for you. Please read all information in this manual before operation

PLEASE EXAMINE CARTON AND EQUIPMENT FOR DAMAGE IMMEDIATELY

When this equipment is shipped, title passes to the purchaser upon receipt from the courier. Consequently all claims for material damaged in shipment must be made by purchaser against the transportation company used.

Please record your equipment identification below for future reference. This information can be found on data plate at rear of machine.

Product: TIG162DC-TFT DIGITAL TIG Welder
Serial No
Date of Purchase
Where Purchased

Whenever you request replacement parts or information on this equipment please always supply information you have recorded above

Pay particular attention to the safety instructions we have provided you for your protection The level of seriousness to be applied to each section is explained below





This statement appears where the information must be followed exactly to avoid serious personal injury.

CAUTION

This statement appears where the information must be following to avoid a minor personal injury or damage to this equipment.

Introduction

The R-Tech TIG162DC-TFT digital TIG welder is a member of our field acclaimed family of welding machines. Premium features include

Colour TFT Screen
60% Industrial duty cycle
Inverter power source - more efficient
EASY SETUP in TIG and MMA

EASY SETUP DC TIG

Professional weld settings built in

DC settings from 1.0 to 4mm

Simple to use easy navigation - no complicated menus - all settings on single screen.

MANUAL MODE DC TIG

Full control of every weld parameter you could ever need

Pre-flow gas, start amps, slope up time, main amps, slope down time, end amps and post flow gas

2 Start modes - HF Fast start, LIFT

2T, 4T, foot pedal & torch switch control modes

DC Pulse up to 500Hz

20 memory stores

Welding Capability – Duty Cycle

The R-Tech TIG162DC Digital is rated at 160 Amps at 60% duty cycle on a ten minute basis. If the duty cycle is exceeded a thermal protector will shut machine off until the machine cools.

Safety Precautions

Read entire section before starting installation.

Warning!



Electric Shock can kill – Only qualified personnel should perform this installation. Turn off input power at the fuse box before working on this equipment. Do not touch electrically live parts. Always connect the machine to an earthed mains supply as per national recommended standards.

Select suitable location

Place the welder where clean cooling air can freely circulate in and out of the front & rear louvre vents.

Dirt, dust or any foreign material that can be drawn through vents into welder must be kept to a minimum. Failure to observe these precautions can result in excessive operating temperatures which can lead to plant failure.

Grinding

Do not direct grinding particles towards the welder.

An abundance of conductive material can cause plant failure.

Transport & unloading

Never underestimate the weight of equipment, never move or leave suspended in the air above people.

Use recommended lifting/handling equipment at all times.

Electrical installation

WARNING ELECTRIC SHOCK CAN KILL



Electric Shock can kill – Only qualified personnel should perform this installation. Turn off input power at the fuse box before working on this equipment. Do not touch electrically live parts. Always connect the machine to an earthed mains supply as per national recommended standards.

Machine grounding and High Frequency Interference Protection

This welder must be grounded to earth. See national electrical codes for proper grounding methods.

The high frequency generator being similar to a radio transmitter may cause interference to radio, TV and other electronic equipment. These problems may be the result of radiated interference.

Proper grounding methods can reduce or eliminate this. Radiated interference can develop in the following ways

- 1. Direct interference from welder power source
 - 2. Direct interference from the welding leads
- 3. Direct interference radiated from feedback into power lines
- 4. Interference from re-radiation by un-grounded metallic objects.

Keeping these contributing factors in mind, installing equipment as per following instructions should minimize problems.

- 1. Keep the welder input power lines as short as possible and enclose as much of them as possible in metal conduit or equivalent shielding. There should be a good electrical contact between this conduit and ground (Earth).
 - 2. Keep the work and electrode leads as short as possible. Tape the leads together where practical.
 - 3. Be sure the torch and earth leads rubber coverings are free from cuts and cracks that allow welding power leakage
- 4. Keep earth lead connection to work in good condition Clean area on workbench where earth clamp is situated on a regular basis.

Electrical installation cont.

Input Connections

Make sure the voltage, phase and frequency of input power is as specified on machine rating plate located at rear of machine.

Have a qualified electrician provide suitable input power as per national electrical codes. Make sure machine is earthed / grounded.

Make sure fuse or circuit breaker is correct rating for machine. Using fuses or circuit breakers smaller than recommended will result in 'nuisance' shut off from welder inrush currents even if welding at low amperages.

Failure to follow these instructions can cause immediate failure within the welder and void machines warranty.

Turn the input power OFF at the mains switch & fuse box before working on this equipment. Have a qualified electrician install & service this equipment.

Allow machine to sit for 5 minutes minimum to allow the power capacitors to discharge before working inside this equipment. Do not touch electrically live parts

The TIG162DC TFT DIGITAL Inverter Tig Welder requires a 240V 50/60Hz supply. It requires a 16A supply. It comes with a 2.5 metre mains cable attached.

Connect wires according to national coding.

Brown wire – Live

Blue wire - Neutral

Green/Yellow Wire - Earth (Ground)

Connecting to an Engine Driven Generator

If connecting this machine to an engine driven generator please ensure the following

Minimum Generator KVA Output – 5 KVA continuous Generator to be fitted with AVR (automatic voltage regulation) DO NOT USE ON A GENERATOR WITHOUT AVR

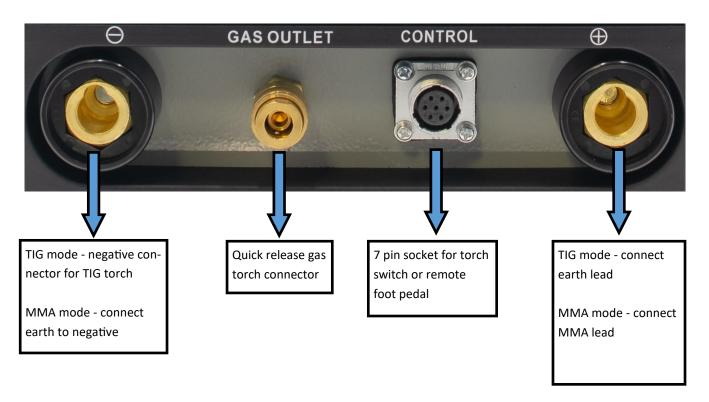
Connecting to a generator without the above minimum requirements will in- validate your warranty.

Technical specifications

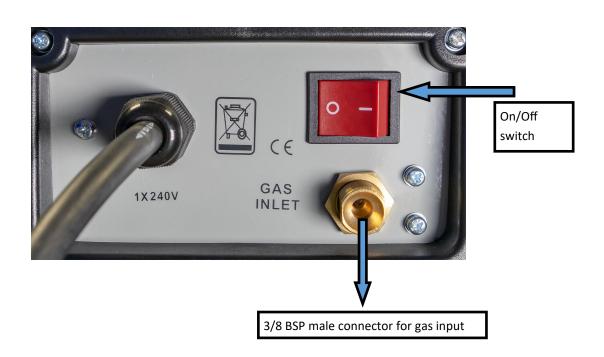
Input	240V AC 50/60Hz	Input amperage 16A
Gross weight	14 KG	
Dimensions	310H x 195W x 425L (mm)	
Insulation	IP21S	
TIG	Current range DC	3A - 160A
	No load voltage	70-80VDC
	Duty cycle	60% @ 160A
	Arc starting modes	HF, Lift
	Trigger modes Manual mode	2T,4T, REMOTE PEDAL,2T+F, 4T+F
	Trigger modes EASY SETUP	2T,4T, REMOTE PEDAL, 2T+F, 4T+F
TIC Manual	Dro flow gos	0 - 25 seconds
TIG Manual	Pre-flow gas	0 - 25 seconds 0 - 10 seconds
	Up-slope time	
	Start amps	3A
	Down-slope time	0 - 10 seconds
	End amps	3A
	Post-flow gas time	0 - 25 seconds
	DC Pulse amps	5 - 95%
	DC Pulse width (time) DC Pulse Hz	5 - 95%
		0.1 - 500 Hz YES - 20
	Memory settings SPOT - TACK Function	YES - with stitch option
	SPOT - TACK FUNCTION	YES - With Stitch option
TIG EASY SETUP DC - Programs for	Metal type	Steel
	Metal thickness programs	1, 1.2, 1.5, 2, 3, 4mm
MMA EASY DC - Programs for	Rod type mild steel	6010, 6011, 6013, 7018
	Rod diameter	2.4, 3.2
	Material Thickness	1.5 - 8mm - Depends on rod size/type.
MMA Manual	DC Amp range	10 - 130A
	Duty cycle MMA	60% @ 130A
	Anti stick	YES
	Hot start time	0 - 2 seconds
	Hot start %	0 - 100%
	Arc Force	0 - 100%
	V.R.D Voltage reduction	YES

Connections

Front panel connections



Rear panel connections



Rear panel connections cont..

Extra earth connection



Extra earth connection, used if you experience local interference (not normally used)

Front panel

Digital Colour Screen

Easy to navigate menu system

EASY SET mode - Pre-programmed weld settings DC TIG & MMA



1 - SELECT knob - Press to cycle through welding options

Turn knob so option required turns RED.

Now press in knob and value will turn RED.

Now turn to adjust setting to desired value.

Once set press button again to enter, you can now move to next setting.

2 - Home / Save button

Press to go to HOME menu.

Press and hold for 3s to save when in memory store.

3 - Menu select / load button

Press to load 2nd menu screen in manual modes.

Press and hold 3s to load memory store.

Controls and settings

The TIG162DC-TFT features 4 main operating modes

DC TIG in EASY mode

DC TIG in Manual mode

MMA (STICK) in EASY mode

MMA (STICK) in Manual mode

DC EASY MODE

R-Tech Easy mode takes the guesswork out of TIG welding. You normally had to enter all weld settings before beginning to weld on manual welders, we have done this for you.

You simply select the following from easy to understand screen.

Tungsten size

Material thickness

The machine will set main amperage power required. You can trim + / - 10A to suit personal style.

TO ENTER EASY MODE - From HOME page turn dial and select TIG EASY by pressing menu select button T



DC EASY MODE

In this screen you can adjust 4 settings

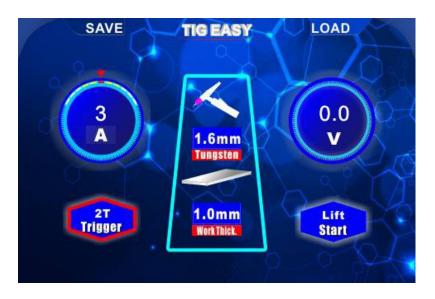
Trigger operation 2T/4T/PEDAL/2T+F/4T+F

Start type - HF/Lift

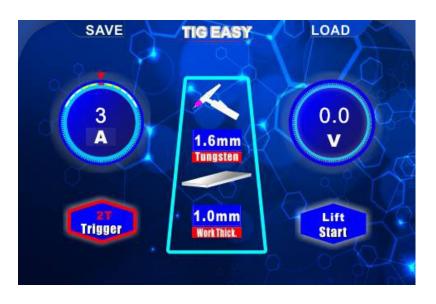
Tungsten size

Work thickness

Turn selector knob until Trigger option is highlighted in RED as below.



Now press in selector knob again so option turns RED



Now turn knob to select 2T, 4T, Pedal, 2T+P, 4T+P

Once you have desired setting, press selector knob in and setting will turn white

You can now turn knob to select Start type

DC EASY MODE cont..

Start mode
Turn selector knob until START option is highlighted in RED as below.



Now press in selector knob again so option turns RED



Now turn knob to select HF or LIFT start mode

Once you have desired setting, press selector knob in and setting will turn white

You can now turn knob to select Tungsten

DC EASY MODE cont..

Tungsten size

Turn selector until TUNGSTEN option is highlighted in RED as below.



Now press selector knob again so option turns RED as below



Now turn knob to select tungsten size.

Options are 1.6mm and 2.4mm

Once you have desired setting, press selector knob in and setting will turn white

You can now turn knob to select Work thickness

DC EASY MODE cont..

Work Thickness

Turn selector until WORK THICKNESS option is highlighted in RED as below.



Now press selector knob in so option turns RED as below



Now turn knob to select work thickness.

Options are

1.6mm Tungsten = 0.8, 1.0, 1.2, 1.5, 2, 3mm

2.4mm Tungsten = 0.8, 1.0, 1.2, 1.5, 2, 3, 4mm

Once you have desired setting, press selector knob in and setting will turn white

The amperage for job is now displayed - you can now start welding.

You can now trim the welding amperage + / - 10 amps to suit personal weld preference by turning select knob so amperage A turns red, press in knob and now trim.

DC MANUAL MODE

R-Tech DC TIG manual mode gives you full control over every weld parameter available.

DC Modes available.

DC Standard (No pulse)
DC Pulse



TO ENTER MANUAL MODE - Press HOME button, then from HOME page turn dial and select TIG by pressing menu select button.

Start HF Remote 2T Pulse ON

DC MANUAL - HOME SCREEN

You can select the following from menu by turning selector, then pressing in to highlight in RED.

Then you adjust the settings as show in next images, once set press in again return.

DC MANUAL MODE cont...

START MODE

Turn selector until START is highlighted in RED, now press selector to highlight setting below in RED, turn dial to required setting, then press selector in to set.



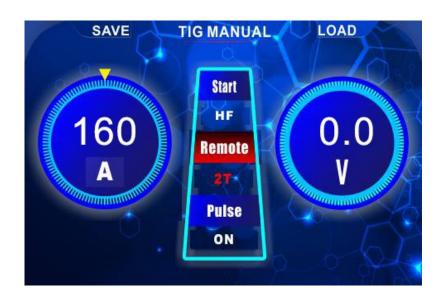
HF Options

HF start - normal auto arc starting.

LIFT - Lift start for welding without HF when working on vehicles to protect electronics.

REMOTE SETTING

Turn selector until REMOTE is highlighted in RED, now press selector to highlight setting below in RED, turn dial to required setting, then press selector in to set.



DC MANUAL - HOME SCREEN cont..

REMOTE Options

- 2T Press trigger to start weld, release to finish weld.
- 4T Press and hold trigger to start weld at start amps, release trigger to go to main amps. To finish weld Press and hold trigger to go to end amps, release and weld will stop. If you wish to abort weld during main amps, quickly tap trigger and main arc will stop and post flow gas will run.
- PEDAL Press foot pedal to start weld, fully depress pedal to get 100% of amps shown in recommended settings. I.E If main amperage setting was 120A, on a full depress of pedal you will get 120A, if pedal only pressed halfway you will get 60A
- 2T+F Torch trigger operation for on/off with amperage control by slider / rotary knob on torch handle.
- 4T+F Torch trigger latch operation same as 4T but with amperage control by slider / rotary knob on torch handle.
- 4TS Torch trigger latch operation same as 4T with the function to switch between start and main amperage by quickly tapping trigger during main amps Ideal for pipe welding where you want to switch to start amps to get continuous weld bead whilst repositioning or getting new filler rod.

PULSE / SPOT / TACK Options

Off - No pulse settings in main weld settings screen
On - Pulse settings shown in main weld settings screen, These being:Pulse time % - Sets pulse time (width) as a percentage of total pulse
Pulse frequency - from 0.1Hz to 500Hz, Pulse Amps % - Sets base amps as a percentage of main amps.

SPOT - Spot welding with optional stitch time function.

TACK- Tack welding with optional stitch time function.



DC MANUAL - HOME SCREEN cont..

Amperage adjustments

Turn selector knob so amperage on left is highlighted in RED, press select button in, then adjust to required amperage, you are now ready to go to 2nd settings screen.



Below is image of 2nd level TIG manual screen.

Here you can select
Pre-flow gas time
Start amps
Up-slope
Down-slope
End amps
Post flow gas time

From TIG manual home page, press menu select button on right of screen to go to 2nd level menu.



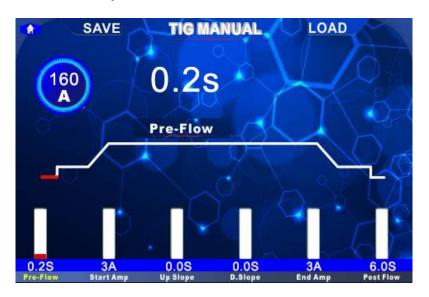
Main welding settings screen.

After setting home screen settings as required, now press the menu select button and the 2nd level screen will be shown as below.

Pre-flow Gas

Use select knob to highlight setting, then press, then adjust required Pre-flow gas time, then press select knob to enter.

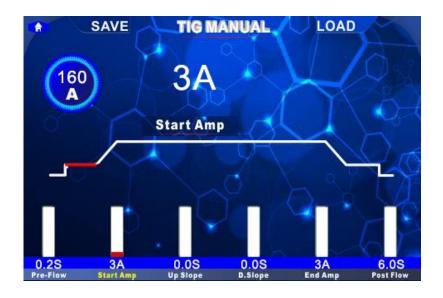
Adjustable between 0.0 - 25 seconds



Start amps

Use select knob to highlight setting, then press, then adjust required start amps, then press select knob to enter.

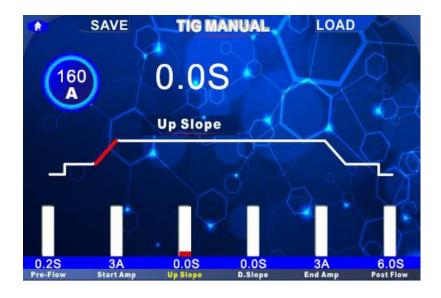
Adjustable between 3A - 160A



Up slope

Use select knob to highlight setting, then press, then adjust required Up-slope time, then press select knob to enter.

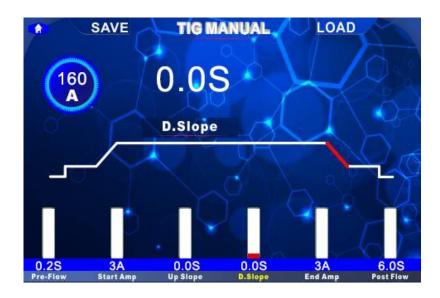
Adjustable between 0 - 10 seconds



Down slope

Use select knob to highlight setting, then press, then adjust required Down-slope time, then press select knob to enter.

Adjustable between 0 - 10 seconds



End amps

Use select knob to highlight setting, then press, then adjust required end amps, then press select knob to enter.

Adjustable between 3A - 160A



Post flow gas time

Use select knob to highlight setting, then press, then adjust required Post-flow gas time, then press select knob to enter.

Adjustable between 0 - 25 seconds



Once all settings have been set, you can start welding immediately or return to home screen by pressing home button and then you can adjust amperage or other settings if required.

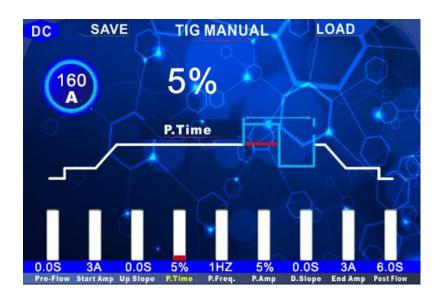
DC Manual with PULSE ON

After selecting PULSE on home screen you will now see 3 further options in DC manual 2nd screen.

Pulse Time

Use select knob to adjust required pulse time, then press to enter setting.

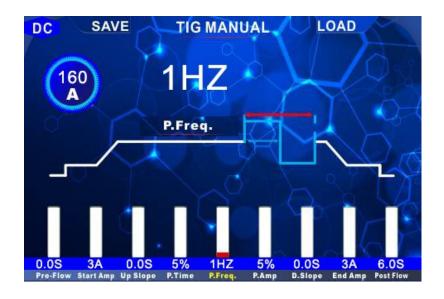
Adjustable between 5 - 95%



Pulse Frequency

Use select knob to adjust pulse frequency then press, then press to enter setting.

Adjustable between 0.1Hz - 500 Hz

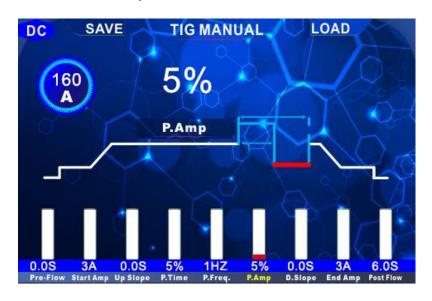


DC Manual with PULSE ON cont..

Pulse Amps

Use select knob to adjust pulse amps then press to enter setting.

Adjustable between 3 - 100%



Now you have set the 3 required pulse settings you can start your weld.

Brief explanation of pulse settings

Pulse time

When pulse welding you have the main (peak) and base (background) amperage. By adjusting the pulse time % you determine which one will be more prominent, the pulse or base. At a low % the base current will be on longer so you will reduce heat input. At a high % the peak current will be on longer so you increase heat input.

Pulse Frequency

This adjusts how often the pulse will happen per second, at 0.5Hz it will be a very slow pulse and you will be able to see the change, when welding at high frequency the sound of arc will change to a higher pitch and you hardly see the change in amperage as it is so fast.

Pulse Amps

This sets the % of pulse vs base amps. I.E If main amperage (peak) is set to 120amps and you set at 50%, the base amps will be 60amps. Generally a setting of 50-75% base amps suits most jobs.

DC SPOT / TACK Modes

Tack welding allows you to produce one single fast tack weld for a selected time when trigger is pressed. You can also set a stitch time which will then set a delay time after first tack and then another tack weld will be started and this will be repeated for as long as trigger is pressed.

Pre-flow Gas

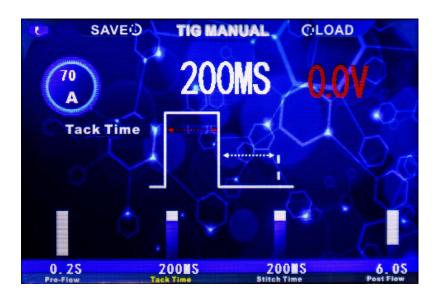
Use control knob to adjust required pre-flow gas, then press arrow button to move to next setting.

Adjustable between 0.0 - 25 seconds

Tack time

Use control knob to adjust required tack time then press arrow button to move to next setting.

Adjustable between 10ms - 250ms



Stitch time

Use control knob to adjust required stitch time, then press arrow button to move to next setting.

If a stitch time of 0.0s is selected, then only one tack will happen on trigger press, once stitch time is above 0.0s then after first tack you will have this delay time and then another weld will be produced.

Adjustable between 10ms - 250ms

Post flow gas

Use control knob to adjust required post flow gas time.

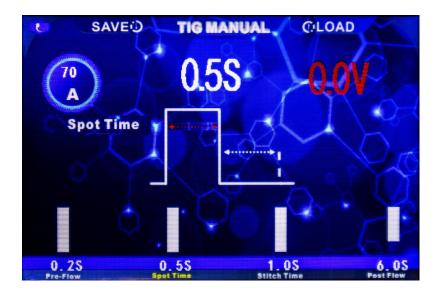
Adjustable between 0.0 - 25 seconds

DC TACK/SPOT Mode cont...

SPOT welding allows you to product one single spot weld for a selected time when trigger is pressed.

You can also set a stitch time which will then set a delay time after first spot and then another spot weld will be started and this will be repeated for as long as trigger is pressed.

This is setup in same way as tack weld screen, however spot time is between 0.1s and 10s and the stitch time is 0 - 5s.



Memory store save and load function

20 memory stores are available so you can save your preferred weld settings.

To access program save menu, press the SAVE/LOAD button for 3 seconds.

The following screen will appear.



Use the select knob to move to required save slot.

Now press and hold the SAVE button for 3 seconds, the saved program will turn YELLOW signalling the program has now been saved.

To load a program, scroll to program required and press Menu select / LOAD button

MMA - STICK WELDING

The TIG162DC-TFT features 2 main MMA STICK operating modes

DC STICK in EASY mode

DC STICK in MANUAL mode

DC MMA EASY MODE

R-Tech EASY SET mode takes the guesswork out of MMA welding.

You normally had to enter all weld settings before beginning to weld on manual welders, we have done this for you.

You simply select the following from easy to understand screen.

Electrode type
Electrode size
Material thickness

Once above settings have been selected, the machine will set main amperage power.

Select STICK EASY from home screen.

In MMA welding terminals are LIVE - ensure welding electrode holder / electrode are not in contact with earth / workpiece.

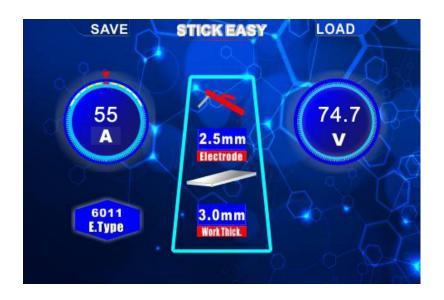


Selecting EASY SET STICK MMA parameters

Use the select knob to move between each setting - once setting is highlighted in RED press control knob to highlight setting in RED then turn to change. Once correct setting is selected, press knob again to enter.

Once you have entered all 3 parameters for weld the recommended welding amperage will be shown. To trim amperage turn selector so amperage is in RED push button then turn to trim.

You can trim this amperage using control knob + / - 10 amps to suit you personal preference of travel



1. ELECTRODE TYPE DC - 6011, 6013, 7014, 7018

2. ELECTRODE SIZE

2.4mm, 3.2mm, 4.0mm - Note: Rods shown depending on machine maximum amperage.

3. MATERIAL THICKNESS

1.5mm, 2.0mm up to 8mm depending on machine maximum amperage and electrode type/size.

MMA - STICK WELDING MANUAL MODE

DC STICK in MANUAL mode



TO ENTER MANUAL MODE - Press HOME button, then from HOME page turn dial and select STICK by pressing in menu select button.



Use the select knob to move between each setting - once setting is highlighted in RED press control knob to highlight setting in RED then turn to change. Once correct setting is selected, press knob again to enter.

V.R.D

OFF - Full OCV (80-90VDC) voltage at welding terminals.

ON - Welding voltage at terminals is reduced to 15VDC (+/- 3V) for user safety. Once electrode touches workpiece the arc is established to full voltage, once arc is stopped, the machine returns to 15VDC

NOTE: In MMA MODE, welding terminals are LIVE - ensure welding electrode holder / electrode are not in contact with earth / workpiece.

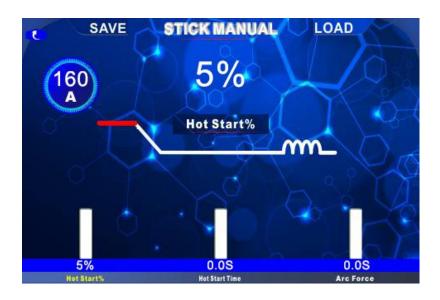
ELECTRODE TYPE

6011, 6013, 7014, 7018

MMA - STICK WELDING MANUAL MODE cont..

After setting home screen settings as required, now press the menu select button on right of screen and the 2nd level screen will show as below.

DC MODE - STICK SETTINGS



You can now select the following 3 parameters.

Turn select knob to highlight setting in yellow, press again to highlight in red, adjust as required then press knob in to set.

Hot Start %

This controls the extra amount of amperage at beginning of weld to help stop rod sticking.

Adjustable from 0- 100%

Hot Start Time

This controls how long the hot start will operate when arc is struck Adjustable from 0 - 2 seconds.

Arc Force %

This controls the arc response for when an electrode is held closer/away from workpiece.

The arc force automatically adjusts amperage / voltage to maintain stable arc.

Adjustable from 0- 100%

Error codes

The machine will show an error code if a problem is detected.







E01 - Overheating

Allow machine to cool down and check fan vents for obstructions

E02 - Overcurrent

Reset machine and if problem persists contact R-Tech support team.

E05 - Shorted Trigger

This will show after the torch trigger or foot pedal has been pressed and the arc has not been established after 4 seconds.

This is to stop the HF start system being active if trigger / foot pedal is pressed in error or switch has gone closed circuit.

<u>Î</u>	**	W.E.	3/1/2
WARNING	 Do not touch electrically live parts or electrode with skin or wel clothing. Insulate yourself from work and ground. 	Keep flammable materials away.	Wear eye, ear and body protection.
AVISO DE PRECAUCION	No toque las partes o los electrodos bajo carga con la piel o ropa mojada. Aislese del trabajo y de la tierra.	 Mantenga el material combustible fuera del área de trabajo. 	 Proléjase los ojos, los oídos y el cuerpo.
ATTENTION	 Ne laissez ni la peau ni des vête- ments mouillés entrer en contact avec des pièces sous tension. Isolez-vous du travail et de la terre. 	Gardez à l'écart de tout matériel inflammable.	Protégez vos yeux, vos oreilles et votre corps.
WARNUNG	 Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder teuchter Kleidung! Isolieren Sie sich von den Elektroden und dem Erdboden! 	Entfernen Sie brennbarres Material!	 Tragen Sie Augen-, Ohren- und Kör- perschutz!
ATENÇÃO	Não loque partes elétricas e elec- trodos com a pele ou roupa molha- da. Isole-se da peça e terra.	Mantenha inflamáveis bem guardados.	 Use proteção para a vista, ouvido e corpo.
注意事項	●通電中の電気部品、又は溶材にヒ フやぬれた布で触れないこと。・施工物やアースから身体が絶縁されている様にして下さい。	■ 燃えやすいものの側での溶接作業 は絶対にしてはなりません。	● 目、耳及び身体に保護具をして下 さい。
管 告	皮肤或混去物切勿接觸帶電部件及 銲條。使你自己與她面和工件絶緣。	●把一切易燃物品移離工作場所。	◆保戴眼、耳及身體勞動保護用具。
Rorean 위 험	 전도체나 용접봉을 젖은 형겁 또는 피부로 절대 접촉치 마십시요. 모재외 점지를 접촉치 마십시요. 	●인화성 물질을 접근 시키지 마시요.	● 눈, 귀와 몸에 보호장구불 착용하십시요.
تحذير	 لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الالكثرود بجلد الجسم أو بالملابس المبللة بالماء. ضم عاز لا على جسمك خلال العمل. 	 ضع المواد القابلة للاشتعال في مكان بعود. 	 ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

	净	N.X	<u>(1)</u>
Keep your head out of tumes. Use ventilation or exhaust to remove tumes from breathing zone.	Turn power off before servicing.	Do not operate with panel open or guards off.	WARNING
 Los humos fuera de la zona de respiración. Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases. 	Desconectar el cable de ali- mentación de poder de la máquina antes de iniciar cualquier servicio.	No operar con panel abierto o guardas quitadas.	AVISO DE PRECAUCION
 Gardez la tête à l'écart des fumées. Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail. 	Débranchez le courant avant l'entre- tien.	 N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés. 	ATTENTION
Vermeiden Sie das Einatmen von Schweibrauch! Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!	 Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öff- nen; Maschine anhalten!) 	Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!	WARNUNG
Mantenha seu rosto da fumaça. Use ventilação e exhaustão para remover fumo da zona respiratória.	Não opere com as tampas removidas. Desligue a corrente antes de fazer serviço. Não toque as partes elétricas nuas.	Mantenha-se afastado das partes moventes. Não opere com os paineis abertos ou guardas removidas.	ATENÇÃO
● ヒュームから頭を離すようにして下さい。● 換気や排煙に十分留意して下さい。	 メンテナンス・サービスに取りか かる際には、まず電源スイッチを 必ず切って下さい。 	パネルやカバーを取り外したままで機械操作をしないで下さい。	注意事項
●頭部追離煙霧。 ●在呼吸區使用通風或排風器除煙。	●維修前切斷電源。	●摄表板打開或沒有安全罩時不準作 棄。	Chinese 警告
● 얼궁로부터 용접가스를 멀리하십시요. ● 호홍지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시요.	● 보수전에 전원을 차단하십시요.	● 판녵이 열린 상태로 작동치 마십시요.	Korean 위험
 ابعد رأسك بعيداً عن الدخان. استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفى فيها. 	 الله التيار الكهريائي قبل القيام بأية صياتة. 	 ◄ لا تشغل هذا الجهاز اذا كانت الإغطية الحديدية الواقية ليست عليه. 	تحذیر

LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的説明以及應該使用的銀挥材料,並請遵守貴方的有関勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀시의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.