



# MTF2 Series Farm-Duty AC Motors – 1-Phase

## T-Frame TEFC Motors – 1-phase 2 to 10 hp

### Features

- 208-230VAC 1-phase
- Totally Enclosed Fan Cooled (TEFC) enclosure
- IP55 environmental rating
- NEMA T-frame
- Rolled-steel housing
- Rigid mounting base
- Can be mounted in horizontal or vertical orientation
- Steel fan cover
- Class-10 manual-reset locked-rotor thermal protector (motor thermal overload must be provided separately)
- Large easy-to-wire junction box with rubber gasket
- Heavy duty oversized ball bearings
- High tensile strength steel shaft
- Mylar nameplate with easy-to-read wiring diagram
- Electrically reversible
- NEMA design L
- Class F winding insulation
- VPI (Vacuum and Pressure Impregnation) insulation process
- Service Factor: 1.15 @ 230VAC; 1.0 @ 208VAC
- Two year warranty
- cUR<sub>US</sub> certified, CE

### Accessories Available

- Start capacitors (replacement/spare)
- Run capacitors (replacement/spare)
- Centrifugal switches (replacement/spare)
- Stationary switches (replacement/spare)
- Locked rotor thermal overload switches (replacement/spare)
- Junction boxes (replacement/spare)
- Fans (replacement/spare)
- Fan shrouds (replacement/spare)
- C-face kits

### Applications

- Conveyors
- Fans
- Pumps
- Air compressors
- Other farm equipment



### Motor Specifications – 1-phase Farm-Duty Motors

Part Number	Price	HP	Base RPM	Voltage	Housing	NEMA Frame	Service Factor	F.L. Amps @ 208/230VAC	Approx Weight (lb)	Drawing Link
<b>MTF2-002-1B18-182</b>	\$600.00	2	1800	208-230 VAC	TEFC IP55	182T	1.15 @ 230 VAC, 1.0 @ 208 VAC	9.3 / 8.5	67	PDF
<b>MTF2-003-1B18</b>	\$692.00	3				184T		13.5 / 12.5	76	PDF
<b>MTF2-005-1B18</b>	\$926.00	5				184T		22.2 / 20.2	100	PDF
<b>MTF2-7P5-1B18-215</b>	\$1,311.00	7 1/2				215T		31.5 / 28.7	134	PDF
<b>MTF2-010-1B18</b>	\$1,449.00	10				215T		45.2 / 38.8	149	PDF

#### Notes:

- 1) Please review the AutomationDirect Terms & Conditions for warranty and service on this product.
- 2) Certain heavy and oversized items can be shipped only via LTL. Check our web site for current shipping method constraints by part number.
- 3) Operate on 230VAC +/- 10% (1.15 @ 230VAC; 1.0 S.F. @ 208V), 1-phase power only.

### Performance Data – 1-phase Farm-Duty Motors

Part Number	HP	NEMA Design	FL RPM	Current @ 230V (Amps)			Torque (lb-ft)			FL Efficiency (%)	FL Power Factor	Rotor Inertia (lb-ft <sup>2</sup> )
				230V No Load	Full Load	Locked Rotor	Full Load	Locked Rotor	Break-down			
<b>MTF2-002-1B18-182</b>	2	215T	1764	3.0	8.5	78.6	6.01	21.8	22.1	84.0	0.92	0.27
<b>MTF2-003-1B18</b>	3		1769	4.2	12.5	89.2	8.76	24.9	24.4	84.4	0.91	0.34
<b>MTF2-005-1B18</b>	5		1769	6.3	20.2	170.7	14.7	57.2	57.3	86.4	0.92	0.49
<b>MTF2-7P5-1B18-215</b>	7 1/2		1767	8.2	28.7	238.5	21.91	82.8	82.2	86.6	0.96	0.74
<b>MTF2-010-1B18</b>	10		1765	11.79	38.8	365.8	29.93	119.7	122.7	87.5	0.96	0.85



# Farm-Duty AC Motor Accessories

## T-Frame TEFC Motors – 1-phase 2 to 10 hp

### Start Capacitors

1-phase motors use capacitors to provide starting torque when power is first applied to the motor. AutomationDirect offers *spare/replacement* starting capacitors for our 1-phase IronHorse motors.

### Run Capacitors

In addition to the start capacitors and centrifugal switches, IronHorse 1-phase farm-duty motors also have run capacitors which allow the motors to develop higher running torque, greater efficiency, and improved power factor. We offer *spare/replacement* run capacitors for 1-phase IronHorse motors.

### Centrifugal Switches

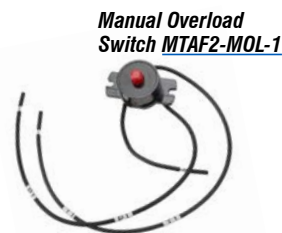
The start capacitors are no longer needed once the motors begin turning, so they are then taken out of the circuit by a centrifugal switch. We also offer *spare/replacement* switches for our motors.

### Locked Rotor Overload Switches

IronHorse Farm Duty motors have a built-in manual overload switch to disable the motor if the load stops the motor (locked rotor). The overload is located in the motor's junction box, and has a manual reset switch. This switch is for locked rotor only. A separate motor thermal overload must be provided.



**Centrifugal Switch**  
**MTAF2-CSW-05**



**Manual Overload Switch**  
**MTAF2-MOL-1**



**Start Capacitor**  
**MTAF2-CAP-16**



**Run Capacitor**  
**MTAF2-CAP-19**



**Stationary Switch**  
**MTAF2-SSW-05**

MTF Farm-Duty 1-phase Motor Spare/Replacement Parts *							
Part Number	Price	Accessory Type	Capacitance (µF)	Rated Voltage	Dimension Height x Ø (in [mm])	Applicable Motor Number	Motor HP
<a href="#">MTAF2-CAP-16</a>	\$37.00	start capacitor	250	300	3.39 x 1.81 [86.1 x 46.0]	<a href="#">MTF2-002-1B18-182</a> <a href="#">MTF2-003-1B18</a>	2, 3
<a href="#">MTAF2-CAP-17</a>	\$53.00		550		3.39 x 1.81 [86.1 x 46.0]	<a href="#">MTF2-005-1B18</a>	5
<a href="#">MTAF2-CAP-18</a>	\$118.00		400	330	4.33 x 1.97 [110.0 x 50.0]	<a href="#">MTF2-7P5-1B18-215</a>	7.5
<a href="#">MTAF2-CAP-19</a>	\$137.00		550	330	3.96 x 1.77 [100.6 x 45.0]	<a href="#">MTF2-010-1B18</a>	10
<a href="#">MTAF2-CAP-20</a>	\$30.50	run capacitor	25	450	3.96 x 1.97 [100.6 x 50.0]	<a href="#">MTF2-002-1B18-182</a>	2
<a href="#">MTAF2-CAP-21</a>	\$39.00		30		450	4.17 x 1.97 [106.0 x 50.0]	<a href="#">MTF2-003-1B18</a>
<a href="#">MTAF2-CAP-22</a>	\$47.00		50	450	3.54 x 2.01 [90.0 x 51.0]	<a href="#">MTF2-005-1B18</a>	5
<a href="#">MTAF2-CAP-23</a>	\$56.00		45	500	4.13 x 2.13 [105.0 x 54.0]	<a href="#">MTF2-7P5-1B18-215</a>	7.5
<a href="#">MTAF2-CAP-24</a>	\$60.00		60	500	4.72 x 1.97 [120.0 x 50.0]	<a href="#">MTF2-010-1B18</a>	10
<a href="#">MTAF2-CSW-05</a>	\$66.00	centrifugal switch	n/a	n/a	n/a	<a href="#">MTF2-002-1B18-182</a> <a href="#">MTF2-003-1B18</a> <a href="#">MTF2-005-1B18</a>	2, 3, 5
<a href="#">MTAF2-CSW-06</a>	\$82.00			250		<a href="#">MTF2-7P5-1B18-215</a>	7.5, 10
<a href="#">MTAF2-SSW-05</a>	\$156.00	stationary switch	n/a	n/a	n/a	<a href="#">MTF2-002-1B18-182</a> <a href="#">MTF2-003-1B18</a> <a href="#">MTF2-005-1B18</a>	2, 3, 5
<a href="#">MTAF2-SSW-06</a>	\$276.00					<a href="#">MTF2-7P5-1B18-215</a> <a href="#">MTF2-010-1B18</a>	7.5, 10
<a href="#">MTAF2-MOL-1</a>	\$114.00	manual overload switch	n/a	n/a	n/a	<a href="#">MTF2-002-1B18-182</a>	2
<a href="#">MTAF2-MOL-2</a>	\$312.00					<a href="#">MTF2-003-1B18</a>	3
<a href="#">MTAF2-MOL-3</a>	\$309.00					<a href="#">MTF2-005-1B18</a>	5
<a href="#">MTAF2-MOL-4</a>	\$309.00					<a href="#">MTF2-7P5-1B18-215</a>	7.5
<a href="#">MTAF2-MOL-5</a>	\$309.00					<a href="#">MTF2-010-1B18</a>	10

\* These accessories are spare/replacement components only for IronHorse MTF2 series 1-phase farm-duty motors.

# Farm-Duty AC Motor Accessories



## T-Frame TEFC Motors – 1-phase 2 to 10 hp

### Fans



Fan  
**MTAF2-FAN-180**

### Fan Shrouds



Fan Shroud  
**MTAF2-SHROUD-180**

### Junction Boxes



Junction Box  
**MTAF2-JBOX-180**

### C-face Flanges



C-face Flange  
**MTAF2-CFACE-180TC**

MTF2 Farm-Duty 1-phase Motor Spare/Replacement Parts *					
Part Number	Price	Accessory Type	Dimension Height x Ø (in [mm])	Applicable Motor Number	Motor HP
<b><u>MTAF2-CFACE-180TC</u></b>	\$126.00	c-face kit	n/a	<u>MTF2-002-1B18-182</u> <u>MTF2-003-1B18</u> <u>MTF2-005-1B18</u>	2, 3, 5
<b><u>MTAF2-CFACE-210TC</u></b>	\$230.00			<u>MTF2-7P5-1B18-215</u> <u>MTF2-010-1B18</u>	7.5, 10
<b><u>MTAF2-JBOX-180</u></b>	\$73.00	junction box		<u>MTF2-002-1B18-182</u> <u>MTF2-003-1B18</u> <u>MTF2-005-1B18</u>	2, 3, 5
<b><u>MTAF2-JBOX-210</u></b>	\$82.00			<u>MTF2-7P5-1B18-215</u> <u>MTF2-010-1B18</u>	7.5, 10
<b><u>MTAF2-FAN-180</u></b>	\$11.50	fan		<u>MTF2-002-1B18-182</u> <u>MTF2-003-1B18</u> <u>MTF2-005-1B18</u>	2, 3, 5
<b><u>MTAF2-FAN-210</u></b>	\$17.50			<u>MTF2-7P5-1B18-215</u> <u>MTF2-010-1B18</u>	7.5, 10
<b><u>MTAF2-SHROUD-180</u></b>	\$56.00	fan shroud		<u>MTF2-002-1B18-182</u> <u>MTF2-003-1B18</u> <u>MTF2-005-1B18</u>	2, 3, 5
<b><u>MTAF2-SHROUD-210</u></b>	\$66.00			<u>MTF2-7P5-1B18-215</u> <u>MTF2-010-1B18</u>	7.5, 10

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# AC Motor Selection – IronHorse<sup>®</sup> General Purpose Motors

<b>IronHorse<sup>®</sup> 1-Phase Motor Selection</b>			
<i>Motor Series</i>	<i>MTR2</i>	<i>MTRJ</i>	<i>MTF2</i>
<i>Paint Color</i>	<i>Black</i>	<i>Black</i>	<i>Green</i>
<i>Main Characteristics</i>	<i>General Purpose Rolled Steel</i>	<i>Jet Pump</i>	<i>Farm Duty Rolled Steel</i>
<b>Electrical Characteristics</b>			
<b>Horsepower range</b>	1/3 - 2	1/3 - 2	2 - 10
<b>Base speed</b>	1800; 3600	3600	1800
<b>Standard Voltage</b>	115/208–230 VAC; 115/230 VAC	115/230 VAC	208–230 VAC
<b>Phase / Base Frequency</b>	1-phase / 60 Hz		
<b>Service Factor</b>	1.15		
<b>Design Code (NEMA)</b>	L or N (by model)	L or N (by model)	L
<b>Insulation Class</b>	Class F		
<b>Insulation System</b>	Dip and Bake Twice		Double VPI
<b>Duty Cycle</b>	Continuous		
<b>Thermal protection</b>	None	Automatic	Manual
<b>Hazard Classification</b>	None		
<b>Mechanical Characteristics</b>			
<b>Frame size</b>	56C or HC	56J	182T - 215T
<b>Enclosure</b>	TEFC	TEFC	TEFC
<b>Enclosure Rating</b>	IP43		IP55
<b>Frame material</b>	Rolled Steel		
<b>End bracket material</b>	Aluminum		
<b>Junction box material</b>	Steel		
<b>Fan guard material</b>	Steel		
<b>Fan material</b>	Polypropylene Plastic	Plastic	
<b>Lead termination</b>	Junction Box		
<b>Standard mounting</b>	C-Face with Removable Rigid Base		Rigid Base
<b>Drive end shaft slinger</b>	Yes		V-ring seal
<b>Bearings</b>	Ball		
<b>Grease</b>	Mobil Polyrex EM		NS7 ENS
<b>Standard junction box assembly position</b>	F1		
<b>Performance Characteristics</b>			
<b>Constant Torque speed range</b>	N/A		
<b>Variable Torque speed range</b>	N/A		
<b>Constant Horsepower speed range</b>	N/A		
<b>Temperature rise</b>	B		
<b>Encoder provisions</b>	None		
<b>Other Characteristics</b>			
<b>Warranty*</b>	2 Years		
<b>Agency Approvals **</b>	CSA, CE		CE, UR

\* See Terms and Conditions for motor warranty explanation.

1) For warranty on IronHorse motors below 50hp, warranty service can be arranged through AutomationDirect.

2) For warranty on IronHorse motors 50hp and above, motors must be inspected by a local EASA motor repair or service center; (see AutomationDirect Terms & Conditions).

\*\* To obtain the most current agency approval information, see the Agency Approval Checklist on the specific part number's web page.

\*\*\* 56HC motors are capable of 56C C-face mounting, and are also compatible with 56, 143T, and 145T foot mounting dimensions.